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Examination of a cooperative learning supervision training and development model

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Examination of a cooperative learning supervision training and development model

by

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CHAPTER I. INTRODUCTION

The report, Nation at Risk: The Imperative for Educational Reform (1983), contained sharp criticisms and a number of recommendations concerning education, schooling, and teaching. The report was especially critical of instructional methods used in kindergarten through twelfth grade classrooms. As educators began to seek alternative instructional strategies to improve the academic performance of students, the pendulum swung away from competitive and individual learning toward cooperative learning, a unique way of providing instruction to students. Tens of thousands of teachers throughout North America began to utilize cooperative learning in their classrooms (Dishon, 1984).

Results of cooperative learning are impressive. When compared with teaching strategies that emphasize competitive and individualistic learning, cooperative learning is more likely to result in higher student achievement, greater student motivation, and more positive student attitudes toward learning (Johnson and Johnson, 1991; Slavin, 1991). This strategy also produces higher level reasoning processes, higher self-esteem, and greater interpersonal competencies than do competitive and individualistic learning (Joyce and Showers, 1988; Joyce, Bennett, and Rolheiser-Bennett, 1990).

Promoting student achievement by assisting teachers to become more effective in the classroom is the major goal of teacher supervisors. Research indicates that principals acting as supervisors of instruction make a difference in teacher performance and pupil learning (Grimmett and Crehan, 1987). To

be effective instructional supervisors, principals must have: (1) a working knowledge of the essential components or elements of the instructional strategy being used in the classroom (Empey, 1989; Watson and Rangel, 1989) and (2) a repertoire of observational skills and recording techniques which can be used to give the teacher specific feedback about the lesson (Acheson, 1985).

Thus, principals, many of whom did not use the cooperative learning strategy when they were employed as teachers, must become familiar with the unique cooperative lesson structure: selection of a lesson, making organizational decisions, setting the lesson, monitoring, processing, and evaluating the outcomes. Understanding the essential components that need to be structured into the cooperative lesson is also crucial.

The recent emergence of this instructional strategy demands expansion of repertoires of principals' skills for collecting data and analyzing lessons. Teacher- centered instructional methods primarily focus on overt teaching behaviors including the successful behaviors of being well-organized and task-oriented (Kindsvatter, Wilen, and Ishler, 1988). Principals must, therefore, be taught observational skills necessary to monitor this structured group work since cooperative learning contains the structured group work of students in addition to the sections of the lesson which are teacher- directed.

Although there has been an increase in programs in the 1980s designed to help principals develop professionally, it has been during the last few years that studies have reported findings on results of these in-service programs. Findings indicate some positive results regarding effectiveness of the in-service training programs (Caldwell, 1986). Rice (1985) developed a training

program for supervisors in conducting postobservation conferences and examined both skill attainment and level of self-confidence. He found supervisors who participated in the training increased both their effectiveness in conducting postobservation conferences and their levels of confidence. Edwards (1985) and Floden (1987) designed training programs for supervisors about data-gathering techniques during lesson observation and measured the programs' effects on increases in data-gathering skills. Both studies showed growth in supervision of data-gathering skills as a result of training. It appears worthy to carefully examine the components of staff development as presented by Joyce and Showers (1983) and the various designs of in-service training programs before deciding upon the sequence of activities for inclusion in the researcher's training model for supervision of cooperative learning.

Statement of the Problem

Cooperative learning has been adopted by numerous school systems (Brandt, 1987). However, because of the differences in teacher roles between cooperative learning and direct instruction, it has presented a challenge for supervisors.

Little has been done to develop a process for supervising teachers who use cooperative learning. Supervisors must be trained so that they obtain the knowledge and competence required to help teachers most effectively use this unique teaching strategy. There is a need to develop and field test a new method for supervisors' acquisition of additional skills and techniques for

collection of data, analysis of data, and providing feedback about cooperative learning lessons. The problem for this study was to determine if training and practice in collecting data, analyzing data, and providing feedback about teachers' use of cooperative learning can enhance the effectiveness, confidence levels, and sense of efficacy of principals who supervise teachers who use cooperative learning.

Purpose of the Study

The primary purpose of this study was to assess the effects of the Cooperative Learning Supervision Training and Development Model (CLSTD) on the skills, confidence levels, and sense of efficacy of principals who supervise teachers using cooperative learning teaching strategies. Specifically, the study was designed to answer these questions:

1. Are principals' data collection skills, data analysis skills, and feedback skills enhanced by training?
2. Does this training enhance principals' level of confidence in providing more useful feedback to teachers of cooperative learning?
3. Does this training enhance principals' sense of efficacy in supervising teachers who use cooperative learning?

Research Hypotheses

This study was designed to test the following hypotheses:

1. Principals trained via the Cooperative Learning Supervision Training and Development (CLSTD) Model will receive significantly

higher teacher ratings in providing feedback about teachers' lesson plans than principals not trained via the CLSTD Model.

2. Principals trained via the CLSTD Model will rate themselves significantly higher in providing feedback about teachers' lesson plans than principals not trained via the CLSTD Model.

3. Principals trained via the CLSTD Model will receive significantly higher teacher ratings in providing specific feedback about the three major parts of a cooperative learning lesson than principals not trained via the CLSTD Model.

4. Principals trained via the CLSTD Model will rate themselves higher in providing specific feedback about the three major parts of a cooperative lesson than principals not trained via the CLSTD Model.

5. Principals trained via the CLSTD Model will receive significantly higher teacher ratings in knowledge and effectiveness of usage of cooperative learning concepts during the postobservation conference than principals not trained via the CLSTD Model.

6. Principals trained via the CLSTD Model will rate themselves significantly higher in knowledge and effectiveness of usage of

cooperative learning concepts during the postobservation conference than principals not trained via the CLSTD Model.

7. Principals trained via the CLSTD Model will rate themselves significantly higher in level of confidence in six selected skill components of cooperative learning than principals not trained via the CLSTD Model.

8. Principals trained via the CLSTD Model will rate themselves significantly higher in sense of efficacy in the supervision of cooperative learning than principals not trained via the CLSTD Model.

Basic Assumptions

The study was predicated on the following basic assumptions:

1. Principals need specific training and development to more effectively supervise cooperative learning.
2. Enhanced knowledge, skill levels, and confidence levels of principals should lead to improved supervision effectiveness.
3. The opportunity to practice the newly acquired skills will improve supervision effectiveness.
4. Improved supervision effectiveness should lead to improved teaching.

Delimitations of the Study

The following factors limited the scope of the examination:

1. The study was conducted using a small sample of Iowa principals and assistant principals.
2. Results of the study were based on the principals' perceptions of their effectiveness, confidence levels, and sense of efficacy in supervising cooperative learning and the study teachers' perceptions of their principals supervision effectiveness.

Classification of Terms and Study Concepts

These definitions are presented to provide clarity and understanding of the study:

1. CLSTD - Cooperative Learning Supervision Training and Development Model.
2. Confidence level - the perception of competence principals have in their abilities in each of six selected skill components for the supervision of cooperative learning.
3. Cooperative learning - research-based instructional strategy or social model of teaching. The cooperative learning model used in this study was the Johnson and Johnson Learning Together Model using the textbook, Cooperation in the Classroom (1991).
4. Development component - part of the Cooperative Learning Supervision Training and Development Model which includes principals practicing supervision skills in peer coaching teams.

5. In-service training - process of providing opportunities for principals to learn and improve the supervision of cooperative learning.
6. Measures of effectiveness - the five categories into which the eight hypotheses of the study were grouped: lesson plan feedback, feedback about the three major parts of the cooperative lesson, knowledge and use of cooperative learning concepts, level of confidence, and sense of efficacy.
7. Peer coaching practice teacher - the teacher who was observed by a pair of principals for practice and peer coaching.
8. Principal study partners - principals paired to work together to coach each other as they observed the study teacher.
9. Principals - the 26 principals/assistant principals who took part in the study.
10. Sense of efficacy - the perception principals have of their expectations of successfully helping teachers become more effective in using cooperative learning through principals' personal efforts in supervising teachers using cooperative learning.
11. Study teacher- the teacher who was observed five times during the study cycle and completed the survey instrument, Teacher Evaluation Profile and Inventory.
12. Training component - part of the Cooperative Learning Supervision Training and Development Model which included the two, one-day in-service workshops.

Human Subjects Release

The Iowa State University Committee on the Use of Human Subjects in Research reviewed this study and concluded that the rights and welfare of the human subjects were adequately protected. They also determined that any risks were outweighed by potential benefits and the expected value of the knowledge sought, that confidentiality of data was assured, and that informed consent was obtained by appropriate procedures.

CHAPTER II. REVIEW OF LITERATURE

The purpose of this examination was to assess the effects of the Cooperative Learning Supervision Training and Development Model on the effectiveness, confidence levels, and sense of efficacy of principals who supervise teachers who use cooperative learning. The model incorporates the latest research in related areas, all of which are summarized in the three sections of this review of literature. This review of literature is presented in three sections. First, an overview of cooperative learning as an instructional strategy is presented. Supervision of teaching is then briefly discussed followed by an explanation of selected observational techniques for data gathering. Finally, in-service training, accompanied by a brief review of the relevant and related literature on adult learning theory, is described. As part of this section, methods used for measuring results of in-service training including assessing level of confidence and sense of efficacy are examined.

Cooperative Learning

Cooperative learning is a teaching strategy in which students work together to master material initially presented by the teacher (Slavin, 1990). Students work together to measure their own and each other's learning (Johnson, Johnson & Holubec, 1991). The focus is on academic content and skills while practicing social skills and group interaction.

Although teachers have used group learning for years, it was not until the middle 1970s that college professors developed a specific set of principles

and methods for use over extended periods as major elements of classroom organization and instruction (Cohen, 1990). Use of cooperative learning strategies has mushroomed in recent years for all levels of schooling. No one is certain how many teachers make regular use of this instructional strategy, but Slavin (1990) estimates there are hundreds of thousands.

Cooperative learning is unique for three reasons (Johnson, Johnson, & Holubec, 1991):

1. The focus of the lesson is on both academic and affective goals.
2. The teacher's role differs considerably in this strategy from more teacher-centered instruction. Teachers act as facilitators by establishing groups to work together on shared goals. The teacher's role, however, is not limited to making certain the groups function well. The role also includes five major sets of strategies:
   a. clearly specifying the objectives for the lesson;
   b. making decisions about student group placement before beginning the lesson;
   c. explaining the task and goal structure clearly to the class;
   d. monitoring the effectiveness of the cooperative learning groups, intervening or interacting to provide task assistance or to enhance the students' interpersonal and group skills; and
   e. evaluating the students' achievement and helping students discuss how well they collaborated with each other.

3. Each lesson requires five essential components to ensure that effective learning occurs (Kindsvatter, Wilen, and Ishler, 1988). The components are:
   a. positive interdependence,
   b. face to face interaction,
   c. individual accountability,
   d. interpersonal and small group skills, and
   e. group processing.

A more detailed explanation of each component, as adapted from Johnson, Johnson, and Holubec (1991), follows.

Positive Interdependence

Positive interdependence is the "glue" of the cooperative activity, occurring when students know they are linked to their teammates in such a manner that the students will succeed only if teammates do. A teammate must coordinate his/her efforts with the efforts of all group members to be successful at completing the task.

Face to Face Interaction

Face-to-face interaction is the crucial interaction pattern and verbal exchange component necessary to ensure that individual members learn and succeed. It is enhanced by the positive interdependence that ultimately effects the intended outcomes of the lesson.

Individual Accountability

Individual accountability exists when the performance of each student is assessed and the results are provided to both the group and the individual. Group members must know which group member needs assistance, support, and encouragement in completing the assignment. It is important, also, that members understand that a student cannot rely on the work of others.

Interpersonal and Small Group Skills

Students must be taught the essential social skills required for collaboration. Also, if the cooperative group is to be productive, students must be motivated to use the skills. Trust, communication, acceptance, support, and constructive resolution of conflicts are social skills necessary for effective group functioning. These skills are progressively developed by

1. ensuring that students see the need for these skills,
2. making certain they understand what the skill is and when it should be used,
3. setting up the practice sessions and encouraging mastery of the skills,
4. ensuring that enough time is provided to practice the skill, and
5. insisting that students practice the skill until it is part of their repertoire.

Group Processing

After the interaction phase, time must be allowed for groups to discuss how well they achieved their goals and whether an effective working

relationship was maintained among members. Teachers can structure the group processing portion by requesting the group to perform specific tasks. For example, group members might be asked to list two actions that contributed to success, requesting that each person give one action he/she contributed to success, with members adding one action that will make the group even more successful next time (Johnson, Johnson, & Holubec, 1991).

Research Conducted on Cooperative Learning

Numerous researchers have pointed out that results of this social model of teaching are impressive (Johnson & Johnson, 1990; Joyce, Bennett & Rolheiser-Bennett, 1990). When compared with competitive and individualistic learning, the cooperative learning experience results in higher achievement, greater motivation, and positive attitudes toward learning (Slavin, 1991).

In a recent synthesis of studies on cooperative learning, Slavin (1991) reviewed 67 high-quality studies that utilized cooperative learning methods over periods of at least four weeks in regular elementary and secondary schools. The studies compared the achievement effects in both cooperative learning and traditionally-taught control classes. Teachers and students were randomly assigned to either cooperative or traditional classes or matched on pre-test achievement levels or other factors. Results showed the achievement effects of the cooperative classes were higher than the traditional methods in 61 percent of the classes. Thirty-seven percent showed no differences. Furthermore, the scores of the control group (two percent) were higher than

the cooperative group in only one study. Slavin (1991) adds that the performance in these studies varied according to the particular cooperative methods used. Those studies in which all the cooperative learning components, group goals, and individual accountability were an integral part had higher effect sizes.

Johnson and Johnson (1991) synthesized findings of 77 studies conducted on social interdependence and self-esteem. Ninety-eight percent of these studies were conducted in the United States, 59 percent of the participants were randomly assigned to groups, and 62 percent were conducted in preschool and elementary schools. When comparing the results of the cooperative learning and the competitive learning strategies, results indicated that 53 percent of the findings were statistically in favor of the cooperative groups, less than one percent were favoring competition, and the remaining percentage showing no significant difference. When cooperative learning was compared with the individualistic strategy, 49 percent of the findings were in favor of the cooperative style, only four percent favoring the individualistic style, and the remaining showing no difference. These findings conducted on the development of self-esteem indicate that cooperative learning experiences generally promote higher self-esteem than do either competitive or individualistic learning experiences (Johnson & Johnson, 1991).

This section of the review of literature focused on the relatively new instructional strategy, cooperative learning. In this strategy the teacher's role differs considerably as teachers serve as facilitators to help students manage their own learning rather than merely acting as purveyors of information.

When compared with both competitive and individualistic teaching strategies, use of cooperative learning consistently results in greater gains in both academic achievement and in self-esteem.

Supervision

Supervision, like any act in a complex organization, can be defined in many ways. Those who focus on the instructional phases define supervision as "a means of offering teachers specialized help in improving instruction" (Oliva, 1989). Researchers agree this specialized help is needed to promote teacher effectiveness in the use of techniques and strategies in the classroom to ultimately raise student achievement (Smith & Andrews, 1989; Behling & Champion, 1984).

Classroom observation is the most widely used and best source of gathering descriptive data on classroom behavior to improve teaching, according to experts in instructional research (Stodolsky, 1990; Cooper, 1984; McGreal, 1984; Manatt, 1982; Evertson & Holley, 1981). The observational focus must be on student learning, teacher and student behaviors, and teaching strategies. These observations, if done skillfully, provide the teacher with feedback which will improve instruction.

Providing an overall evaluation of a teacher's performance is not sufficient to assist teachers in improvement of instructional techniques. If growth is to occur, feedback is crucial; it must be specific to be beneficial and improve instruction (Duke & Stiggins, 1988). Cohen (1990), investigating student outcomes of cooperative learning, adds that providing an overall

evaluation of a teacher's performance is not enough to produce mastery of the difficult skills of managing cooperative classrooms. Cohen agrees that supervision feedback, to be most effective, must be highly specific. It is crucial that teachers understand precisely what will be observed and why it is important. Supervisors then need to provide specific feedback on behaviors observed. In particular, Ellis (1987) found that specific feedback, rather than more general, was most effective in improving performance in using cooperative learning strategies.

In order to assist teachers with specific feedback, principals must possess certain understandings and skills. Principals need a repertoire of observational skills, data-recording techniques, and a working knowledge of instructional strategies for use in conferencing with teachers (Streifer, 1987). Researchers have found that these supervision skills are what teachers need, but in many cases are not getting, from their principals (Acheson, 1985).

Although supervision of cooperative learning is beginning to be studied, little evidence was found to indicate that techniques or methods to assist teachers in improvement of performance have been developed. The only work found was an article by Rangel and Watson (1989) which indicated that with cooperative learning in such wide use, supervisors now typically formally observe teachers who use some form of cooperative learning in new lessons. Rangel and Watson added that observing a lesson can be a challenge because nine different models of cooperative learning are practiced today. Supervising and evaluating a lesson can be effectively carried out if the supervisor or evaluator knows the essential elements of the teaching strategy

being used. Five components of a cooperative lesson were identified as being most common:

1. heterogeneous teams,
2. teammate interdependence,
3. interdependence of teams,
4. accountability, and
5. activity appropriateness.

Rangel and Watson's suggestions are worthwhile, but merely relating that these elements are present does not provide the effective specific feedback that teachers need to improve instructional techniques. To provide supportive feedback, the entire cooperative lesson must be examined. Much of the overall effectiveness of the student group interaction and academic and social learning depends upon proper lesson planning, implementation of positive interdependence, setting of the group goals, and determining individual accountability (Slavin, 1991).

Data Collection Techniques

Observation, in this context, refers to the skilled use of techniques to identify and record important behaviors that can be heard and seen in a learning environment. Observing classroom teaching serves as a means to select a focus of the conference as well as to determine which techniques might be most appropriate for recording what is observed. An efficient observer provides the teacher with another set of eyes and ears (Costa & Garmston, 1988).

Costa and Garmston (1988) claim many techniques for recording data may be appropriate to use in observing a particular lesson. Although there is no single way to solve all problems teachers face, examining techniques for data collection is important in order to select and adapt appropriate techniques for a given situation or to invent an original device for meeting a unique need. Some techniques for recording data are better for recording the verbal aspects of teaching. Others chart the physical movement in the classroom, while others may focus on non-verbal student action. Some may record the action of the teacher with others designed to record interaction among and between students and teacher. Some of the techniques are designed to take a global view; others have been constructed to record and analyze specific behaviors of teachers and students.

To observe and record a given strategy appropriately, the observer needs to know the observation structure called for, the modes of thinking expected of students, and the principles of interaction that guide the teacher's responses and statements (Costa & Garmston, 1988). For example, in a teacher-centered strategy, the teacher chooses the activities and controls the time spent on the phases of the lesson. The teacher's interaction with the students during all phases of the lesson is important to student learning. When the teacher is not involved in the presentation, he/she is monitoring students' progress by moving around the room, keeping students on task, giving feedback, and working with individuals.

In contrast, in cooperative learning, which is a combination of teacher- and student-centered strategies, the instruction does not involve solely

teacher-centered strategies. In cooperative learning teachers act as facilitators by structuring groups to work together on shared goals. The teacher spends time planning the lesson carefully, paying particular attention to specific decisions pertaining to the forming of groups, and arranging instructional materials for positive interdependence (Kindsvatter, Wilen, & Ishler, 1988). This planning time is integral to keeping the group together. Teachers orient the students to the introduction of the lesson and the students then set the stage for the group interaction phase by setting the lesson. The groups work together on their tasks and social skills while the teacher monitors. Helping the group stay on task or answering questions may be done by intervening or interacting. The final task is the evaluation and processing section in which the quality and quantity of group learning is assessed by both the teacher and students (Dishon & O'Leary, 1984).

To determine an appropriate recording technique for classroom observation, an observer needs a variety of data-recording techniques from which to choose. Most data-recording techniques can be classified as "structured" or "unstructured." Structured techniques follow a specific format. They include checklists, interaction analysis, and observational records based on seating charts. Unstructured techniques include narrative, audio, and video recordings. A summary of both structured and unstructured techniques, their purposes, and the advantages and disadvantages of each follows. The advantages and disadvantages of each data recording technique were gleaned from the review of literature compiled by Floden (1987).

Structured Techniques for Data Collection

Structured data collection methods include types of systematic observation procedures for data collection which attempt to provide objectivity and minimize observer bias (Costa & Garmston, 1988; Medley, 1982). The systematic observation pertains to observations of classroom behaviors recorded by a trained observer who records the behaviors according to a system. When using this technique, the observer makes a written record of exactly what is said (within a certain category) within the classroom. The observer and the teacher determine beforehand certain kinds of verbal events to be recorded (Costa & Garmston, 1988). Structured techniques include verbal flow, at-task recording, class traffic recording, interaction analysis and selective verbatim.

Verbal Flow Recording Technique The observer records who is talking to whom. For example, categories of verbal interaction which can be recorded may include teacher question, student answer, teacher praise, and student question. Verbal flow is similar to the technique of selective verbatim in that both techniques deal with classroom verbal behavior. Selective verbatim is concerned with the content of verbal communication, whereas verbal flow identifies the initiators and recipients of the verbal communication and the kind of communication in which they are engaged (Costa & Garmston, 1988). Verbal flow recording techniques: (a) reveal teacher verbal communication behavior, (b) identify the level and type of student verbal participation, and (c) provide the teacher with a mirror of verbal communication for self-analysis. However, verbal flow data: (a) limit the scope of behaviors recorded,

(b) limit data recording to highly interactive lessons, and (c) are difficult to use for an entire period due to writing space and observer concentration limitations (Floden, 1987).

At-Task Recording Technique When using at-task techniques for recording data, the observer systematically notes the behavior of each student or group of students at regular intervals during the course of the lesson. The behavior of each student or group is recorded in categories agreed on by the teacher and observer in the observation planning conference. Categories might include "sharing in the task accomplishment" or "doing the assigned work" (Costa & Garmston, 1988). At-task behavior data recording techniques: (a) yield a clear picture of who is at-task and when and (b) provide the teacher with a mirror of student or group on- and off-task behavior for self-analysis. However, at-task behavior data: (a) limit the scope of behaviors recorded, (b) entail observer subjectivity, (c) require the difficult process of recording simultaneous and varied behaviors, and (d) cause writing space problems and observer concentration limitations if used for an entire class period (Floden, 1987).

Class Traffic Recording Technique This data-recording technique, which relies on the use of students' seating patterns, is one which records the physical movements visible during a lesson and includes movements of teacher and students (Costa & Garmston, 1988). Class traffic recording data techniques: (a) reveal strengths and biases in teacher movement and time spent with each student or group, (b) identify possible causes of classroom management difficulties related to student/teacher movement patterns, and

(c) provide the teacher with a mirror of classroom patterns for self-analysis. However, class traffic behavior data: (a) limit the scope of behaviors recorded, (b) are difficult to record and interpret, and (c) cause lack of writing space and observer concentration problems if used for an entire class period (Floden, 1987).

Interaction Analysis Recording Technique Called Flanders Interaction, this technique enables an observer to record and analyze data of significant verbal interaction between the teacher and student. Flander's system recommends that the observer make a tally of the student and teacher interaction every three seconds. This data recording technique is probably the best known, most widely used, and most thoroughly researched for recording and coding interactions between teachers and students (Costa & Garmston, 1988). Interaction analysis recording techniques: (a) improve the quality of observations by providing objective feedback to the teacher, (b) allow use at any grade level or situation, and (c) serve as a mirror for self-reflection. However, interaction analysis data: (a) require in-depth training, (b) limit data recording to verbal interaction, and (c) yield only quantitative data (Floden, 1987).

Selective Verbatim Recording Technique When using the selective verbatim recording technique, the observer makes a written record of exactly what is said in the classroom within a certain category. The observer and the teacher determine beforehand certain kinds of verbal events to be recorded (Costa & Garmston, 1988). Verbatim recording techniques: (a) sensitize the teacher to the verbal process, (b) allow selectively focus on one or two simple

verbal behaviors, (c) provide an objective, non-interpretative record of teacher behavior, (d) are simple to use, and (e) provide the teacher with a verbal mirror for self-analysis. However, verbatim recording techniques: (a) may be affected by prior knowledge of teacher's behavior, (b) allow a chance of too narrow a focus to exist, and (c) permit little knowledge of students and lesson context which may lead to interpretation problems (Floden, 1987). Nevertheless, Floden's conclusion is that this method does provide an effective tool for providing feedback regarding behavior problems identified by the teacher and supervisor (Acheson & Gall, 1980; Costa & Garmston, 1988).

Unstructured Techniques for Data Collection

Unstructured techniques for data collection follow no set format. These techniques attempt to utilize whatever processes with which the observer feels comfortable. The observer may write an anecdote or a comment, or transcribe from a portion of a lesson (Edwards, 1985). Unstructured techniques include global span (anecdotal notes), audiotaping, and videotaping.

Global scan Global scan or "wide lens" techniques help teachers gain a sense of the "big picture" and what is transpiring in the classroom. These techniques include such methods as anecdotal notes, audiotapes, and videotapes.

Anecdotal notes These recording techniques are used when the teacher and supervisor have not identified specific behaviors to observe. The anecdotal record is composed of short, objective, and non-evaluative handwritten comments. Anecdotal notes: (1) help provide data during an

initial observation and (2) allow the analyzing of cause and effect relationships. However, anecdotal notes: (1) are difficult to observe and record simultaneously, (2) make judgements common, and (3) require much practice to be accurate (Costa & Garmston, 1988).

Audiotaping This data recording technique provides an electronic, oral record of what has occurred in the classroom. Audiotapes: (1) present data which are objective, (2) provide a wide focus, (3) allow for replay, (4) are easy to use, and (5) provide opportunities for self-analysis. However, audiotapes: (1) limit recording to verbal interactions and (2) take time to record (Costa & Garmston, 1988).

Videotaping A record of what actually transpires in the classroom can be provided by videotaping. If the group is small, it reveals all of the class transaction. Video recordings: (1) present objective data, (2) provide a wide focus, (3) allow for replay, (4) provide opportunity for teacher to see self as seen by class, and (5) observe essence of classroom interaction. However, videotaping : (1) may alter student or teacher behavior, (2) consume time in setting up equipment, (3) need a camera operator, (4) may allow editorializing by operator, and (5) allow sensitive teacher to hear or see different facets of student behavior (Costa & Garmston, 1988).

This section describes the data collection methods which can be used to record both teacher and student behaviors in the classroom. Structured techniques follow specific format and provide the observer with specific, valid, and generally unbiased data. Unstructured techniques have no set format, focusing on strategies the observer finds comfortable. Experts (Oliva,

1989; Costa & Garmston, 1988; Acheson and Gall, 1987) agree with Evertson and Holley (1981) regarding the quandary when selecting a technique for observation. Although no one method is suitable for all classroom observations, the technique selected for observing the cooperative learning lesson must be a combination which best relates to both teacher and student behaviors and includes unstructured and structured components. Advantages and disadvantages of each instrument must be considered carefully when making the selection decision.

In-service Training

Training is defined as an activity or process with the intended purpose of improving skills, attitudes, understandings, or performance in present or future roles (Joyce & Showers, 1988). Supervision training can be defined more narrowly as providing a process to help supervisors assist teachers in improving instruction (Empey, Bowman, & Odden, 1990). To achieve reliable information, the supervisor must be thoroughly familiar with several instructional areas. Supervision training must necessarily focus on providing a process for supervisors to become acquainted with (1) teaching skills based on effective teaching, (2) repertoire of data collection techniques, and (3) conference techniques (Striefer, 1987; Acheson, 1985). Researchers generally agree that training can improve the skills and abilities of individuals (Costa & Garmston, 1988; Acheson & Gall, 1987; Manatt, 1982; Sweeney & Stow, 1981).

Authorities on the subject of in-service posit that supervision skills can be taught. Manatt (1982) wrote that "teacher performance evaluation is a skill

and can be enhanced by training" (p. 2). Stow and Sweeney (1981) maintain that a successful training model includes the development of evaluators' skills for assessing teacher performance. Faust's (1982) study confirmed Manatt's statements that the training of supervisors leads to greater success in classroom observation.

Researchers have also concluded that some principals are unable to supervise teachers effectively because they lack the skills needed to analyze classroom teaching behaviors (Acheson, 1987; Dwyer, 1983; Wise, Darling-Hammond, McLaughlin, & Bernstein, 1984). It was further concluded that since observation skills play an important role in the success and effectiveness of teacher supervision and evaluation, principals, as observers, must develop these skills. In agreement with this conclusion, Edwards (1985) found the need for training in lesson observation to be widespread and common, indicating almost 90 percent of Iowa principals surveyed in 1984 wished for a better way to record what they observe in the classroom. Edward's findings were consistent with Acheson (1985) and Hawley (1982) who reported that a high percentage of administrators felt a need to improve their classroom observation skills. Floden (1987) expressed a similar concern and designed a training program for supervisors to develop data-gathering techniques, measuring the program's effects on increases in data gathering skills. Both Floden (1987) and Edwards (1985) showed growth in data-gathering as a result of training. In a recent study, McIntyre (1988) assessed the effects of evaluator training on the skills of 64 Iowa school administrators. It was found that if administrators are properly trained in teacher evaluation, their confidence

levels increased along with their willingness to become more involved and to persist in this evaluation activity.

The 1980s yielded rich research for assisting educators to determine both the process and what should be included in in-service programs. Results of various studies indicate there are identifiable characteristics which contribute substantially to the success of in-service programs. While the majority of these studies focused on the professional development of teachers, much of which has been found is applicable to the development of supervisors of teachers (Butler, 1989).

Since 1983, the Glendale California School District has promoted training for administrators in the supervision of instruction through a comprehensive professional development program. The program was designed to facilitate the growth of administrators in skills that support, assist, and encourage teachers in improvement of instructional performance. Although 90 percent of the participants rated the program offerings as highly beneficial, no objective evaluation was done by the prime beneficiaries of the training, the teachers.

Both research on components of effective in-service training programs and adult learning theory provide a rich context for examining supervisor training development. Several research studies (Gall, 1985; Joyce, Hirsh & McKibbin, 1983) conducted on in-service programs have identified those components which are most essential to the overall structure of a training program. In a synthesis of in-service literature, Sparks (1983) created a

combined list of components essential for effectiveness of in-service programs:

1. Diagnosing needs assessments and prescribing ways to meet needs
2. Giving information and demonstrating its application
3. Discussing application
4. Practicing and giving feedback
5. Coaching

Addressing staff development, Joyce and Showers (1988) contend that the training design needs to be research-based, using these components:

1. Presentation of theory or description of the new skill or strategy - conferences, seminars, journal articles, videos and discussions.
2. Modeling or demonstration of skills or strategic model - the strategy enacted through a live demonstration with adults or children.
3. Practice in simulated and actual settings - practice in small groups.
4. Structured and open-ended feedback to provide information about performance in the practice - observation and the opportunity to reflect on the experience.
5. Coaching for application - the follow-up work to help with the at-home implementation of the new skill and/or knowledge.

Coaching occurs immediately after learning the new skill and is guided by experts or accomplished by other trainees who are organized into learning teams for this purpose. In addition to providing companionship and technical feedback, coaching allows trainees to analyze the application of a

skill and to determine the appropriate occasion to use the newly learned strategies (Caldwell, 1986; Duttweiller, 1989).

A second type of follow-up involves the use of groups to support growth after the program has been conducted. Individuals convene to share ideas and experiences concerning a particular strategy. Burden (1990) claims that during these sessions learners might share testimonials about their experiences in trying out a new strategy. Also, they can share information and provide group members with emotional feedback to support effort. This follow-up seems to be especially worthwhile for principals who may not have clearly defined space and time within which to work, making observation more difficult (Caldwell, 1986).

Research on inclusion of these five components, as reported by Joyce and Showers (1988), increases in importance during the development of a new skill. For example, when skill is the desired outcome of training, the combination of all five components has demonstrated the greatest power (Bennett, 1987; Joyce & Showers, 1983). Theory or demonstration used alone results in an effect size of approximately .5 of a standard deviation. Theory, demonstration, and practice combined produce an effect size of approximately .7 for skill, while theory, demonstration, practice, and feedback combined result in an effect size of 1.18. When the coaching component is added, an even higher effect size resulted (Joyce & Showers, 1988).

Whether the in-service program contains the design components as listed by Sparks (1983) or Joyce and Showers (1988), the prime question in in-

service training concerns the level of impact. Joyce and Showers (1980) specify four levels of impact for in-service or staff development programs:

1. Awareness - participants realize the importance of new information and begin to focus on it.
2. Concepts and organized knowledge - concepts are understood and organized.
3. Principles and skills - principles and tools of action are understood and participants can think effectively about them and have the skills needed to act to apply them.
4. Application and problem solving - participants transfer new information in problem solving fashion to real-life professional situations.

This process must be understood in terms of interdependence of each level with the next. Only after the awareness can one think effectively about it, possess the skills to act, and finally transfer it into effective supervisory behavior. It is at this transfer level of impact that participants in development programs have internalized the new content and are capable of using it. The overall structure of in-service appears to influence the programs' level of impact (Joyce & Showers, 1980; 1988).

Current research, therefore, offers these design components for successful in-service: (1) a systematic approach to move participants from awareness of the new learning through transfer and application, (2) a process for reinforcing the new learning though transfer and application, and (3) a process for promoting long-term behavior change through staff development. These

components must be translated into actual learning activities within the context of a staff development program.

When examining a successful staff development program, adult learning theory should be a prime consideration. Both Cross (1981) and Butler (1989) reported that it is important to understand how adults learn and to be familiar with what research shows to be most effective in the design for professional development. Experts contend that change is more complex for adults since it initially means eliminating well-established behavior patterns before replacing them with new patterns (Bennis, 1989; Fullan, 1990). Adults are achievement-oriented and goal-oriented, bringing their experiences as a base for learning (Cross, 1981). Thus, there is a need for opportunity to reflect on new learning and to integrate its content into their repertoires.

Cross (1981) lists four significant findings which are important for understanding adult learners:

1. The process of adult learning is transformative, not formative. While children are in the process of becoming, adults are changing from one form to another. Thus, trust is an important element in training, as adults' self-esteem is often on the line.
2. Adult training must be relevant. Adults expect exercises to teach them something new, and they expect to be successful in learning, intending to transfer this new learning to their professional and personal lives.
3. Since there is risk in change, training sessions must have an atmosphere of trust and support between the trainers and the

participants. Peer support must be developed between the participants so that they experience a threat-free, accepting environment.

4. Active involvement is important to the adult learner. Trainers must use a variety of instructional approaches rather than relying on one style. Active involvement and use of reflection permits the learner to apply the new knowledge to one's own unique setting and to integrate the new learning into the existing cognitive framework.
5. Trainers need to be knowledgeable, have the ability to plan the sessions well, use a cooperative approach to planning, and apply interesting instructional methods.

This section examined the research areas of in-service training and adult learning theory. To develop an effective in-service training program it is important to understand the components of an effective training model, the four levels which impact the transfer of this new knowledge or skill, and adult learning theory. These findings must be considered and attended to when developing an in-service model for supervision training. The final section of this review focuses on the rating methods used to measure the results of in-service training including the impact of level of confidence and sense of efficacy on performance.

Measuring Results by Various Rating Instruments

To examine supervision training's effectiveness, a variety of sources must be considered since it is a complex endeavor. When measuring the

quality of effectiveness of in-service training, a full picture must be developed. Examination of data from multiple sources provides a more complete picture. Supervisors' ratings, peers' ratings, subordinates' ratings, and self-ratings are some of the sources for providing information on effectiveness (Carroll, 1981).

Supervisors' ratings are by far the most prevalent and the oldest form of ratings. Supervisors, in this case principals, are considered knowledgeable about the work of their subordinates. Peer ratings include objective feedback to assist learners in identifying behaviors they may have missed or to motivate them to focus on new behaviors to be included. Feedback can be extremely helpful, provided peers understand the training well, since they are so close to the operation and they can relate to what is actually happening. Peer ratings are not intended to be judgmental, but rather the purpose is to help teachers or principals to be objective about their self-ratings (Carroll, 1981).

A self-rating form is a written instrument that requires an individual to rank or grade oneself on skills. The scale may be numeric (quantitative) or verbal (qualitative) (Barber, 1990). The available research on principals' self-ratings suggests that they may have little agreement with observation or perceptions of supervisees, colleagues, or supervisors. Manasse (1985) reports, in a study conducted on 15 performance criteria that principals rated themselves higher than any other group rated the principals. In a similar study done with 406 teachers under the supervision of 45 principals to determine whether significant differences existed between principal self-perception, teacher perception, and supervisor perception, Cummings-Cooper

(1989) concluded that principals rated themselves higher than either teachers or supervisors.

However, in research performed with teachers, Carroll (1981) suggests self-ratings do have important benefits. The greatest benefit of self-ratings continues to be their ability to provide self-understanding especially in the area of instructional improvement. The ratings are also to be used for individuals to compare their own performance to that of a standard or with colleagues. Finally, self-ratings offer individuals additional insights to complement interpretations from other sources and are most effective when used to identify certain discrepancies with other ratings. For sake of comparisons, Carroll advocated it is important to devise self-rating forms that are closely parallel in content and format to those used by other evaluators. This approach facilitates the identification of discrepancies (Carroll, 1981).

Confidence Level of Supervisors

To function effectively in the supervision role it is necessary that a principal have a high level of self-confidence. When first encountering a new endeavor, such as supervision of a new instructional technique which one may not have used extensively in the classroom, hesitancy and anxiety can occur. Principals supervising a new instructional skill may lack the confidence needed to guide the teacher in improvement of instructional strategies. It is understandable that the untrained supervisor of cooperative learning may approach the observation with some apprehension and anxiety.

Confidence is critical to improving the effectiveness of principals in supervising cooperative learning. Self-confidence is necessary for success (Saunders, 1984). It appears that an increase in self-confidence is a variable which can be measured in the effectiveness of training. Self-perceptions are the result of others' interpretations of one's behavior and affect morale and the degree to which individuals are enthusiastic, courageous, and ambitious. Confidence influences the amount of energy allocated to an activity, the extent to which persistence is given to the activity, and performance in the activity. It seems likely, that if principals are trained well in the supervision of cooperative learning, levels of confidence will increase and they will be more willing to participate and persist in this important supervision function.

It was found in two recent studies that training produces increases in confidence levels. Rice (1986), in an experimental study examining the relationship between a media facilitated approach for training supervisors and conducting post-observation conferences, discovered that supervisors trained via this approach were significantly more self-confident in their ability to conduct conferences than those in the control group. McIntyre (1988), who studied the level of confidence of supervisors in teacher and administrator evaluation, found the participants' overall level of confidence increased after training, and they became significantly more confident in knowledge and skills in each of eight examined skills.

Sense of Efficacy

Increased sense of efficacy is another facet worth examining, as a result of training. Efficacy, as defined by Smylie (1990), is the beliefs people hold about their own capabilities or abilities to act in ways that bring about learning and development. While application of this concept and theory varies across studies, Bandura's work provides a useful framework for review and interpretation (Bandura 1982, 1986). Bandura defined efficacy as one's perception of his or her ability to affect valued outcomes through personal effort, concluding that efficacy is derived from several sources with personal accomplishments being the prime consideration. Other sources of efficacy information are vicarious experiences, verbal persuasion, and physiological indices (Smylie, 1990). In general, efficacy is thought to increase with appraisals of repeated success drawn from these various sources of information. It is also thought to decline with appraisals of repeated failure. Efficacy expectations determine how much effort people will expend on an endeavor and how long they will persist in the face of obstacles. Bandura posits that an increase in self-efficacy results in efforts to persist.

Feltz and Mugno (1983) found that change in self-efficacy, as a result of training, improved the performance level of trainees. Reporting reciprocal effect between self-efficacy and performance, this effect was found to be greatest in the initial stages of training. The training was characterized by improvements in self-confidence followed by increased performance which, in turn, produced additional positive changes in self-confidence. The process produced a cycle much like the commonly known self-fulfilling prophesy. It

stands to reason that improved confidence influences future supervisory performance.

Individual sense of efficacy has been found to be statistically significant between employee efficacy and different dimensions of work performance in a number of studies. It has been related to job commitment and satisfaction, performance on work tasks, and low employee turnover (Fuller, 1982). That individuals' efforts to protect or enhance their own sense of efficacy significantly influence organizational change (Berman & McLaughlin, 1977) and that individuals will choose to work in domains where their perceived efficacy is high (Lefcourt, 1976) are widely accepted notions of behavior.

Aston and Webb (1986) found a relationship between teacher efficacy and classroom practice. Their findings reveal that high efficacy teachers are more likely to emphasize instruction and the importance of learning to students. Rosenholtz (1989) identified positive relationships of teacher efficacy to opportunities for feedback about their classroom performance and collaboration with other teachers about instruction. One might contend that these findings are consistent with Bandura's theory of self-efficacy. They suggest that high efficacy individuals are more likely than low efficacy individuals to engage in behaviors that are risky and challenging, expending more effort and persisting longer in the face of obstacles or adverse conditions.

Gist (1989) reported the effects of several training programs on the sense of efficacy of 120 mangers. Studying the influence of two training methods on sense of efficacy and performance during training for problem solving, findings indicated that the method comprised of modeling with practice and

reinforcement generated significantly higher sense of efficacy than the method involving lecture and practice alone. Thus it seems, the superiority of one method over another can generate even greater self-efficacy and could have implications for studies.

Principals can provide themselves with some opportunities to enhance an increased sense of efficacy. Continued education and repeated practice of newly acquired skills and understandings are practical means to increased sense of efficacy. Squire (1988) recommends three other methods: (1) seek out models and mentors, masters of task domains about which the principal is least confident; (2) self-model an area in which the principal wishes to improve by using videotapes, then view and determine methods to make needed improvements; and (3) request peer feedback from an expert colleague or consultant. Squire concludes that principals should foster such interaction through various means in promoting a sense of efficacy. According to Squire, through these interactions, principals gain a sense of efficacy which ultimately assists teachers. The outcome of these actions is that teachers become more effective in classroom performance.

This section addressed the various methods in which results may be measured. It appears that in order to gather a thorough picture of the overall effectiveness of supervision training, a variety of ratings must be administered. Each rating system can provide different perceptual feedback. Viewed collectively, all sources can provide the complete picture needed to assess the supervision process. By examining performance ratings done by

various individuals and increase in levels of confidence and sense of efficacy, one can determine the effectiveness of an in-service training program.

Summary

This chapter summarized literature on cooperative learning as an instructional strategy, effective supervision of teaching focusing on data collection, in-service training design with special sections on adult learning, and rating instruments used for measurement of training. The research clearly shows: (1) more studies are constantly revealing the importance of cooperative learning and the effects the teaching strategy has on student achievement and self-esteem; (2) classroom observation is the most commonly used supervision method, yet can be very effective if trained observers are involved with the data collection, data analysis, and feedback; (3) supervision can be taught, providing the in-service training program is carefully designed with components extending from presentation of theory through coaching for application; and (4) a variety of rating instruments are available that can measure the effectiveness of an in-service training program.

However, in the literature review, no studies were found pertaining to the supervision of cooperative learning. Little has been done to develop a process for supervising teachers who use cooperative learning. The investigation examined the effects of the CLSDT Model on the effectiveness, levels of confidence, and sense of efficacy of principals who supervise teachers who use cooperative learning. The Model incorporates the latest research in related areas.

CHAPTER III. METHODS AND PROCEDURES

The purpose of this chapter is to describe the methods and procedures used to develop and examine the effectiveness of the Cooperative Learning Supervision Training and Development Model (CLSTD) on the skills, confidence levels, and sense of efficacy of principals supervising cooperative learning. This chapter, which describes the methods and procedures used to gather and analyze the data required for the study, has been divided into seven sections: (1) Cooperative Learning Supervision Training and Development Model; (2) timeline for activities in the examination of the Cooperative Learning Supervision Training and Development Model; (3) research design; (4) the sample; (5) training workshops and practice for skill development; (6) development of instructional plans, materials, and survey instruments; and (7) analysis of data.

Cooperative Learning Supervision Training and Development Model

The Cooperative Learning Supervision Training and Development Model, devised by the researcher, is shown in Figure 1. The model assumes that (1) there are essential components for an effective in-service workshop; (2) training must be presented in more than one session to allow principals time to internalize the supervision process; (3) practice and feedback are important components of an effective in-service program; and (4) additional practice and peer coaching in the field and debriefing of implementation of learning are necessary to develop confidence with the new skills and techniques.

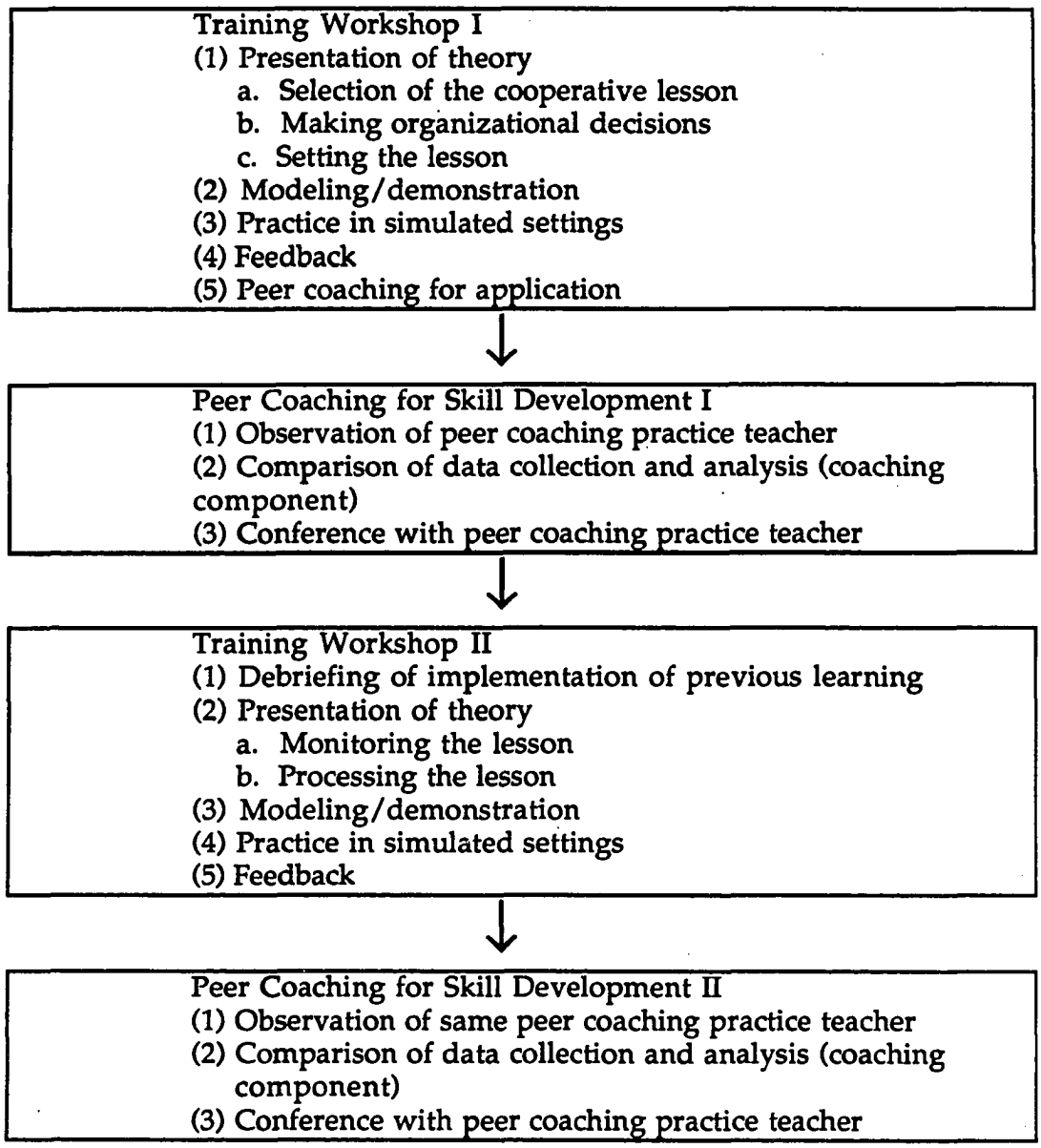

Figure 1. Cooperative Learning Supervision Training and Development Model

Therefore, presentation of theory and learning the new skills for supervision of teachers using cooperative learning occurred on two separate days of training. During the first day of training, principals were introduced to peer coaching. Skills were practiced during peer coaching while principals internalized new practices. Principals formulated questions and raised concerns during practice and then discussed them with expert trainers and other colleagues in the second day of training.

Timeline for Activities in the Examination of the Cooperative Learning Supervision Training and Development Model

The study was designed to be conducted over a 19-week period of time in order to thoroughly examine the Cooperative Learning Supervision Training and Development Model for the supervision of teachers who use cooperative learning. The timeline for activities is presented in Figure 2. Activities are identical to the activities of the CLSTD Model with the addition of data gathering in the pre- and post-treatment period to investigate the model's effectiveness.

Research Design

This study was conducted using "pretest-posttest control group design with matching" (Borg and Gall, 1989), chosen to test the effects of the training. A variation on the pretest-posttest control-group design was used to obtain additional precision in the statistical analysis of the data. Two groups of principals were matched to reduce initial differences between the experimental and control groups.

Gathering Baseline Data

Weeks 1-4 Observation Cycle with Study Teacher - two observations

(1) Principal holds pre-conference with study teacher
(2) Principal conducts classroom observation of teacher using cooperative lesson
(3) Principal completes Supervisor Attitude Survey
(4) Principal conducts postconference with study teacher
(5) Principal completes the Supervisor Conference Effectiveness Inventory and teacher completes the Teacher Evaluation Inventory and Profile

Week 5 Training Workshop I

(1) Presentation of theory
    a. selection of a cooperative learning lesson
    b. making organizational decisions
    c. setting the lesson
(2) Modeling/demonstration
(3) Practice in simulated settings
(4) Feedback
(5) Peer coaching for application

Weeks 6-10 Peer Coaching for Skill Development I

(1) Observation of peer coaching practice teacher
(2) Comparison of data collection and analysis (coaching component)
(3) Conference with peer coaching practice teacher

Week 11 Training Workshop II

(1) Debriefing of implementation of previous learning
(2) Presentation of theory
    a. Monitoring part
    b. Processing part
(3) Modeling/demonstration
(4) Practices in simulated settings
(5) Feedback
(6) Peer coaching for application

Weeks 12-14 Peer Coaching for Skill Development II
(1) Observation of same peer coaching practice teacher
(2) Comparison of data collection and analysis (coaching component)
(3) Conference with peer coaching practice teacher

Gathering Post-Treatment Data

Weeks 15-19 Observation Cycle with Study Teacher-three observations
(1) Principal conducts pre-conference with study teacher
(2) Principal conducts classroom observations of teacher using a cooperative lesson in the classroom
(3) Principal completes Supervisor Attitude Survey
(4) Principal conducts a postconference with study teacher
(5) Principal completes the Supervisor Conference Effectiveness Inventory and teacher completes the Teacher Evaluation Inventory and Profile

Figure 2. Timeline for activities used in the Examination of a Cooperative Learning Supervision Training and Development Model

The experimental group received the treatment, training in the CLSDT Model. The control group received no treatment. Both groups were given the same pre- and posttest surveys. Perceptions of principals and teachers about supervision effectiveness were measured with three survey instruments explained later in this chapter.

Sample

Certain criteria were used to select participants for the study. To be eligible, principals had to have completed the thirty- hour evaluator training required by the state of Iowa and the Johnson and Johnson thirty-hour cooperative learning foundation course. Teachers who participated as study teachers or peer coaching practice teachers had to have been using cooperative

learning for at least two years. Potential principals for the study were referred by Dr. Linda Munger, cooperative learning consultant; Dr. Barbara Licklider, assistant professor at Iowa State University; and personnel from the Iowa Area Educational Agencies (AEA's), which had offered cooperative learning foundation training to Iowa educators.

Letters were sent in November, 1990 to fifty-five eligible principals asking if they would be interested in participating in the study. The letters explained the purpose of the study and its activities, assured confidentiality and anonymity, and outlined cost. Thirty-two principals who indicated they were willing to participate were asked to provide specific information on the Cooperative Learning Study Principal Response Questionnaire (Appendix A) to assist the researcher with group formation. This information included: (1) gender, (2) number of years in the principalship, (3) number of pupils enrolled in their schools, (4) current school level of their principalships, (5) whether or not principals were trained in the thirty-hour Johnson and Johnson cooperative learning training foundation course with their current staffs, and (6) approximate number of hours completed by the principals in supervisor or evaluator training during the last five years.

In forming groups, the criteria used were gender, current school level of the supervised, school size supervised, and number of years in the principalship. Geography or location was also considered because principals in the experimental group were paired for peer coaching practice for the developmental portion of the model. Principals participating from the same school district were placed in the same group to help prevent contamination

(Borg & Gall, 1989), that is, to prevent the sharing of new knowledge and skills gained from the training.

When final assignment to groups was completed, the two groups appeared to be equal. A cross section of Iowa principals was represented in the gender, school level supervised, years of experience, and size of school. The experimental group was comprised of two females and eleven males with the control group including three females and ten males. The mean years of principal experience in the experimental group was 11.5 years and 10.4 years for the control group. Average school size for the experimental group was 425 students, and 429 students was the average for the control group. All study participants were public school principals and assistant principals. A summary of the demographic data for both groups is shown in Table 1.

Table 1. Summary of demographic data of experimental (CLSTD) and control group principals

Group	Role	No.	Gender	No.	Level	No.	Mean years	Mean size
CLSTD	principals	12	female	2	elementary	7	11.5	425
	assistant	1	male	11	middle	4		
					high	2		
Control	principals	11	female	3	elementary	9	10.4	429
	assistants	2	male	10	middle	3		
					high	1		

A packet was mailed in December, 1990, to principals who volunteered to participate in the study (Appendix A). The packet included a cover letter indicating assignment to one of two groups, a description of the study, a data collection and lesson analysis of cooperative learning procedure sheet for principals, principal consent form, and two copies of the Supervisor Conference Effectiveness Inventory and Supervisor Attitude Survey instruments for the principal. Enclosed was a sealed envelope to be given to the study teacher, including a cover letter, a procedure sheet for teachers, a teacher consent form, and two copies of the Teacher Evaluation Inventory and Profile survey instruments.

Principals were asked to read the description of the study to members of staff and to recruit a study teacher who had been using cooperative learning for at least two years. If more than one teacher indicated interest, principals randomly selected one teacher to participate. Principals in the experimental group were also requested to select a second teacher, referred to in this study as a peer coaching practice teacher, who would be observed after each in-service session by the two principals working together as peer coaches.

Training Workshops and Practice for Skill Development

The major goal of the training workshops and practice for skill development was to facilitate transfer of skills and knowledge gained by principals in in-service training to supervisory behaviors in their schools. The objectives of the workshops were to enable the principals to:

1. develop a clear understanding of how to identify the components of cooperative learning;
2. develop a clear understanding of how to collect data, analyze data, and provide feedback about the four parts of a cooperative lesson;
3. increase principals ' levels of confidence in their abilities to collect data, analyze data, and provide feedback about the four parts of a cooperative lesson; and
4. facilitate principals use of skills and knowledge gained via participation in a peer coaching relationship in the field and principal group interaction during the workshop.

The CLSDT Model was designed to influence principals at four levels of understanding: (1) awareness of the theory base underlying the skills and strategies for supervision of teachers using cooperative learning; (2) intellectual control over the relevant content; (3) acquisition of skills for action; (4) transfer of concepts, skills, and strategies learned in the training to supervision of teachers who use cooperative learning.

Based upon the research on effective training programs, the Cooperative Learning Supervision Training and Development Model was comprised of five components: (1) presentation of theory; (2) modeling or demonstration; (3) practice in simulated settings; (4) feedback; and (5) coaching for application. A description of each component follows.

Presentation of theory The presentation of theory section included the rationale or purpose of cooperative learning supervision training, its

theoretical base, research on cooperative learning, and a description of the key components of the four cooperative learning lesson parts.

Training Workshop I was designed to provide an awareness, refresh usage of cooperative learning terms, and establish a base from which to proceed with presenting the new material. It also focused on the cooperative learning lesson parts: "selection of a lesson," "making organizational decisions," and "the setting of a lesson."

Training Workshop II focused on "monitoring of the lesson" and "processing of the lesson." With the "monitoring" section being new learning for the principals, time was taken to explain the coding system developed for recording teacher and student behaviors.

Modeling/demonstration As they led the workshop, the two workshop facilitators, Dr. Linda Munger, a cooperative learning consultant, and Dr. Barbara Licklider, assistant professor at Iowa State University, modeled cooperative learning strategies, illustrating the content identified in the Presentation of Theory section.

During Workshop I modeling included analyzing the lesson plan for the first activity which was a cooperative group exercise (Appendix A) and analyzing the script of the teacher presentation for the activity. With assistance from the trainers, principals found evidence of the key concepts in the major parts of the cooperative lesson plan. After individually finding the evidence, they turned to the peer coaching principal partner to discuss their findings.

The content of Training Workshop II focused on the "monitoring" and "processing of a lesson." Modeling included analyzing the monitoring and processing sections for the cooperative learning activity from Workshop I and analyzing the lesson plan for the cooperative lesson demonstrated via videotape. When analyzing the monitoring section of the lesson, principals used a coding sheet developed for this study. During the second part of Workshop II principals analyzed a complete lesson plan.

Practice in simulated settings Principals worked individually, in pairs, and as a group to identify the parts of a cooperative lesson. In Workshop I, "selection of a lesson," "making organizational decisions," and "setting of a lesson," were presented one at a time. Principals viewed a videotape of a teacher setting a cooperative lesson. They used selective scripting data gathering techniques to record teacher behavior. They analyzed the data gathered by identifying and labeling concepts for setting of the lesson. After completing the individual analysis, they worked with their principal study partner to compare observations. Trainers gave feedback about this practice via large group discussion.

Workshop II focused on "monitoring" and "processing" components of a cooperative lesson. During this study a special system was devised for gathering and recording data for both teacher and student behaviors during the "monitoring "part of the lesson (Appendix D). Monitoring, which centers on students working cooperatively in small groups, is different from data-gathering during teacher-centered classroom instruction. The rationale for this new data recording system was presented in the workshop.

During the second workshop, principals viewed a videotape of a teacher conducting "monitoring" and "processing" of a cooperative lesson, using the new system to record data for both teacher and student behaviors during the "monitoring" of the lesson. This was followed by using selective scripting to record data for the processing. Principals analyzed the data-gathering by identifying and labeling key concepts for both "monitoring" and "processing". They practiced analyzing the data gathered from video one and analyzed the script from the cooperative learning activity. Principals compared data and analysis with a partner and then with the large group. Written copies of the cooperative learning lesson plan and a prepared script of the lesson were then distributed to the principals. Principals used these written materials for a comparison with the data they had recorded and analyzed. During the second half of the workshop principals analyzed the lesson plan for video two, gathered data about the lesson from the video, and analyzed the data.

The same process was repeated during the second part of the workshop when the principals viewed a videotape of an entire cooperative learning lesson.

Feedback The workshop facilitators gave the principals feedback related to the analysis of the cooperative lesson plan, data gathering, data analysis, and labeling of feedback to be given to the teacher about their performance in analyzing each of the cooperative learning components. Feedback was also provided about each part of the lesson through large group discussion after the principals discussed their results in pairs.

Coaching for application Principals worked together with a principal study partner supervising a peer coaching practice teacher teaching a cooperative lesson. The principals compared data and analysis of data and the home principal conducted a postobservation conference with the peer coaching practice teacher.

In preparing the principals to coach one another, the focus was on learning to practice and internalize the supervision method together. Principals reviewed, discussed, and asked questions of one another and compared observations and discussed concepts and strategies used. They did not provide evaluative feedback unless the other principal requested it.

Shared activities included breaking the lesson into three major parts, discussing and reflecting upon key concepts and observations, understanding the cooperative learning process, and determining what should be discussed in the postobservation conference with the peer coaching practice teacher.

Development of Instructional Plans and Materials

Materials prepared for the two-day CLSDT Model workshops included:

1. Instructional plan This detailed the sections, objectives, activities, and time needed for teaching each major activity of cooperative learning supervision. Each section focused on a part of the cooperative learning lesson. The objectives provided the focus for the instruction and the activities the vehicle for learning. The plan was comprised of two parts, one for each day of training (Appendix B).

2. Training session agenda This outlined the sequence of activities for each day's training sessions (Appendix C).
3. Key concepts These handouts provided the key behaviors and "look fors" for each major part of the cooperative lesson (Appendix D).
4. Peer coaching suggestions These outlined activities and strategies for peer coaching teams (Appendix G).
5. Data recording sheets This provided a vehicle for recording behaviors and interactions observed during each part of the cooperative lesson (Appendix D).
6. Evaluation This was used by principals to provide feedback about what they learned and the quality of both the training and the materials (Appendix E). Feedback from the first session was used in planning the second session.

Video Tapes

Video tapes of a teacher using cooperative learning in the classroom were viewed to allow principals the opportunity to practice cooperative learning lesson observation and data gathering analysis skills. Tapes, filmed especially for this practice portion of the study, were of an experienced, master teacher adept at using cooperative learning strategies in the classroom. The teacher, Jan Wiersema of Cherokee Community Schools, Cherokee, Iowa, had used cooperative learning techniques for over five years. These video tapes depicted above average teaching--relevant teaching with explicit strengths as well as areas needing improvement. The tapes, each accompanied by a cooperative learning lesson plan, demonstrated the major parts of a lesson.

Because both the tapes and lesson plans were in logical order, it was easy for the principals to practice all the skills and strategies necessary for use in the supervision of teachers using cooperative learning. The 45-minute tapes of ninth grade classes were appropriate for use by K-12 principals.

Instrumentation

Three instruments were utilized in this study: (1) the Supervisor Attitude Survey, (2) the Supervisor Conference Effectiveness Inventory, and (3) the Teacher Evaluation Inventory and Profile (Appendix F). The Supervisor Attitude Survey, used in research conducted by McIntyre in 1988 at Iowa State University, assessed the principal's level of confidence in conducting the postobservation conference. Modifications were made to the instrument to more closely relate to supervisory conferences related to cooperative learning. Principals in both CLSTD and control groups completed the instrument prior to the postobservation conference following each classroom observation.

The Supervisor Effectiveness Inventory was used in a previous study by Rice (1986). It was adapted for use in the present study. The inventory assessed principals' self-perceptions of effectiveness in the postobservation conference and principals' self-perceptions of effectiveness in providing the study teacher with specific feedback. The Teacher Evaluation Inventory and Profile, developed by Stiggins (1986), identified important factors or attributes that promote the professional development of teachers. This instrument was also modified by the researcher, major professors, and cooperative learning

consultant to relate the conference to specific areas of the cooperative learning lesson.

All three instruments received approval from the Iowa State University Committee on the Use of Human Subjects in Research. All were reviewed by assistant professor, Dr. Barbara Licklider, who had extensive experience supervising cooperative learning and four Iowa State University graduate students who had supervisory experience and had completed the thirty-hour Johnson and Johnson Cooperative Learning Foundation Course. Reliability of each instrument had been established in previous studies. Two observations of study teachers were used in the pre-treatment cycle of this study to establish the reliability for these modified instruments. A description of each instrument follows:

Supervisor Attitude Survey This instrument was designed to gather data related to principals' levels of confidence as they approached the postobservation conference. Principals rated themselves as supervisors of cooperative learning in data gathering; lesson analysis; feedback skills; providing examples to help the teacher improve; and, in general, assisting the teacher with improvement of cooperative learning instruction. A seven-point Likert scale was used for the instrument,measuring responses to seven items on the scale 1, "strongly disagree," to 7, "strongly agree." Principals completed the survey prior to the postconferences conducted with study teachers.

Supervisor Conference Effectiveness Inventory This instrument was developed to assess principals' self-perceptions of effectiveness during the

postobservation conferences. Principals were asked to self-rate effectiveness in specific areas of performance: gathering data, analyzing data, and giving feedback; helping reflect on the evaluation; and contributing to the professional growth of the study teachers. A seven-point Likert scale was used with responses from 1, "strongly disagree" to 7, "strongly agree." Principals completed this instrument immediately following postobservation conferences with the study teachers.

Teacher Evaluation Inventory and Profile This instrument was designed to gather data to assess teachers' perceptions of principals' effectiveness in providing feedback during the postobservation conference. Items were similar to items on the Supervisor Conference Effectiveness Inventory. A seven-point Likert scale was used, measuring the study teachers' responses from 1, "strongly disagree" to 7, "strongly agree." Teachers completed the instrument after each postobservation conference.

Observation Cycle with Study Teachers

In early January, 1991, principals in both the experimental and control groups observed their study teachers conducting a cooperative lesson twice and conducted a postconference with the teachers after each observation. Prior to and following the conference, the principals completed the Supervisor Attitude Survey and the Supervisor Conference Effectiveness Inventory. Teachers completed the Teacher Evaluation Inventory and Profile after each postconference. The principals' and teachers' completed surveys were mailed separately to the researcher.

Training Workshop I

Fourteen of the original sixteen principals in the experimental group attended the first training session in early February, 1991, in Ames. The workshop was conducted by Dr. Barbara Licklider, assistant professor at Iowa State University, and Dr. Linda Munger, cooperative learning consultant. This workshop, emphasizing the presentation of theory, was designed to provide principals with supervision training in the major parts of the cooperative lesson. The first training session focused on a review of cooperative learning terminology and major concepts of Cooperation in the Classroom (Johnson & Johnson, 1991). Concepts presented were: selection of a cooperative lesson, data collection, data analysis, and provision of feedback on two parts of the cooperative lesson, "making organizational decisions," and "the setting of the lesson " (Appendix B).

Original plans also included focusing on the last part of the cooperative lesson, the processing component, but participants expressed concerns about needing more time to digest the first three parts of the cooperative lesson. It was decided to modify the training, spending the extra time on "making organizational decisions" and "the setting of the lesson." The "processing of the lesson" served as a focus for the second day of the training.

Peer Coaching for Skill Development I

Principals in the experimental group were teamed with other principals in their local school districts and worked in peer coaching relationships.

Where possible, principals were teamed with another principal whose school was near-by and, preferably, who supervised the same school level.

To prepare for peer coaching, principals selected a second teacher in their buildings, referred to as a peer coaching practice teacher. The two principals together observed that teacher instructing a cooperative lesson.

The purpose of this activity was to allow principals the opportunity to practice new skills and knowledge in a non-threatening environment, allowing them to perfect new cooperative learning supervisory behaviors, thoughtfully reflecting and sharing results with a colleague. Principals knew the coaching sessions were non-evaluative and professional assessment of each other was not taking place.

Immediately following the lesson, principals met and discussed their individual observations, using knowledge and skills developed during the first day of in-service training. The peer coaching practice teacher participated in a conference conducted by the home principal. The same process was then repeated in the other principal's school.

Original plans of the study were to have principals conduct two more observations of the study teacher between workshops one and two. However, it was decided that the focus during this interim period between the workshops would be on the principals coaching each other, working together observing the peer coaching practice teachers, and comparing observations with each other. Thus, the major goal for the principals between the two training sessions was practice and internalization of the first part of the training.

Training Workshop II

The second training session was held in early March, 1991, at Iowa State University. Ten of the 14 principals in the experimental group participated. A make-up training session was conducted the following week for the four principals who were unable to attend. The all-day workshop focused on teaching the principals how to collect data, analyze data, and provide feedback on the "monitoring" and "processing" parts of a cooperative lesson. The workshop opened with a discussion addressing questions and concerns raised by principals during practice in the field (Appendix B).

Peer Coaching for Skill Development II

Following the workshop, principals in the experimental group again worked together observing the peer coaching practice teacher and sharing results with each other. Home principals presented feedback to the teacher in a postobservation conference. As principals shared in peer coaching, focus was centered on improvement of supervisory techniques in anticipation of performing three more observations of study teachers.

Observational Cycle with Study Teacher

Principals in both the experimental and control groups made three further observations of study teachers conducting a cooperative learning lesson. Prior to the postobservation conference, principals completed the Supervisor Attitude Survey. After the conference the principal completed the

Supervisor Conference Effectiveness Inventory, and the teacher completed the Teacher Evaluation Inventory and Profile.

Analysis of Data

Data were collected from the thirteen principals and study teachers in the experimental group and the thirteen principals and study teachers in the control group. One principal and study teacher in the experimental group and three principals and their study teachers in the control group did not complete observations during the second part of the study and thus were not included in the study.

After completing the postobservation conference with study teachers, principals in each group returned two surveys each of the Supervisor Attitude Survey and the Supervisor Conference Effectiveness Inventory prior to the training workshops provided for the experimental group. After the training workshops, all principals conducted three more observations and postconferences and then completed the surveys, returning them to the researcher. Study teachers also completed the Teacher Evaluation Inventory and Profile twice during the first part (pre-treatment) of the study and three times during the second part (post-treatment) of the study.

After all completed surveys were received, the data were prepared for computer treatment. Statistical treatment of the data was completed, using the Statistical Package for Social Science (SPSSX) computer program. Descriptive statistics providing frequencies, means, and standard deviations were computed to study the relative value of the variables. Frequencies and

paired t-tests were used to assess the differences between pretest (pre-treatment) and posttest (post-treatment). T-test groups were used to compare mean differences between the CLSTD and control groups.

CHAPTER IV. FINDINGS OF THE STUDY

The purpose of this chapter is to report the results of the examination of the Cooperative Learning Supervision Development and Training Model (CLSDT) on (1) teachers' perceptions of principals' effectiveness in collecting data, analyzing data, and providing feedback about a cooperative learning lesson, (2) principals' self-perceptions of effectiveness in collecting data, analyzing data, and providing feedback about a cooperative learning lesson, and (3) principals' self-perceptions of levels of confidence and sense of efficacy in supervising teachers who use cooperative learning. The five measures of principal effectiveness were: (1) lesson plan feedback provided by principals, (2) principals' feedback about major parts of the cooperative lesson, (3) principals' knowledge and usage of cooperative learning concepts, (4) principals' levels of confidence level in supervising cooperative learning, and (5) principals' sense of efficacy in supervising cooperative learning.

Analysis of Results

The eight operational hypotheses presented in Chapter I. were tested using appropriate independent t-tests (t-test groups) to analyze differences between experimental and control groups. Dependent t-tests (t-test pairs) were used to test treatment effects on the experimental group and to determine if any changes took place in the control group.

Data were collected from teachers and principals in each of the experimental (CLSTD) and control groups: (1) thirteen principals in the

experimental (CLSTD) group, who attended two, one-day training sessions and practiced new skills in coaching pairs; (2) thirteen study teachers supervised by the principals in the CLSTD group; (3) thirteen principals in the control group, who did not participate in training; and (4) thirteen study teachers supervised by the control group principals. Three instruments were used (Appendix F) to collect the data: (1) Teacher Evaluation Inventory and Profile; (2) Supervisor Conference Effectiveness Survey; and (3) Supervisor Attitude Survey. Figure 3 presents the survey instrument used to measure each hypotheses.

Lesson Plan Feedback

Hypothesis 1: There is no significant difference between teachers' perceptions of the effectiveness of principals trained via the CLSTD Model in providing feedback about teachers' cooperative learning lesson plans and teachers' perceptions of the effectiveness of principals not trained via the CLSTD Model in providing feedback about teachers' cooperative learning lesson plans.

Hypothesis 1 was designed to determine if principals trained in the CLSTD Model provide more effective feedback about teachers' cooperative learning lesson plans than principals who did not receive the training. Data from the Teacher Evaluation Inventory and Profile were used to test the hypothesis. The null hypothesis was tested using the t-test group procedure to compare the means of the experimental (CLSTD) and control groups for differences to determine treatment effects.

Ho	Effectiveness Measure	Instruments		
		Teacher Evaluation Inventory and Profile	Supervisory Conference Effectiveness Survey	Supervisor Attitude Survey
Ho1	Cooperative learning lesson plan feedback	X		
Ho2	Cooperative learning lesson plan feedback		X	
Ho3	Feedback on three major cooperative learning parts	X		
Ho4	Feedback on three major cooperative learning parts		X	
Ho5	Knowledge and use of cooperative learning concepts	X		
Ho6	Knowledge and use of cooperative learning concepts		X	
Ho7	Principal self-confidence level in supervising cooperative learning			X
Ho8	Principal self-efficacy in supervising cooperative learning			X

Figure 3. Survey instruments used to collect data for the eight hypotheses in the study

Table 2 presents the data for examining teachers' perceptions of the effectiveness of the feedback received about cooperative learning lesson plans. Analysis of pretest scores revealed no significant difference between the ratings of effectiveness of principals who received training $\overline{X}$ (5.58) and those who did not $\overline{X}$ (5.49), (t-value = .22, p> .05). Teachers' perceptions of the CLSTD principals' effectiveness in providing feedback on cooperative lesson plans increased significantly from the pretest $\overline{X}$(5.57) to the posttest $\overline{X}$ (6.63), (t = 4.60, p < .01). The mean difference of principals in the CLSTD group from the pretest to the posttest was 1.05, which was highly significant. The effectiveness of the feedback of the control group did not increase significantly from the pretest X (5.49) to the posttest $\overline{X}$ (5.72) (t = 1.33, p < .05). The difference in posttest means between principals in CLSTD group and those in the control group was .91. The t-value was 4.00, which is highly significant. Thus, Hypothesis 1 was rejected.

Mean ratings of teachers' perceptions of principals' effectiveness in providing feedback about teachers' cooperative lesson plans for each of the five observations of study teachers were compared. Figure 4 displays a line graph which shows mean scores ranging from 5.55 (first observation) to 6.84 (fifth observation) in the CLSTD group and 5.46 to 5.92 in the control group.

Hypothesis 2: There is no significant difference between the self-perceptions of effectiveness of principals trained via the CLSTD Model in providing feedback about teachers' cooperative learning lesson plans and the self-perceptions of effectiveness of principals not trained via the CLSTD Model in providing feedback about teachers' cooperative learning lesson plans.

Table 2. Analysis of pretest and posttest mean scores of CLSTD and control group teachers' perceptions of the effectiveness of principals in providing feedback about teachers' cooperative learning lesson plans

Principal Groups	Pretest Mean	S.D.	Posttest Mean	S.D.	Mean Difference	Within Group t-value
CLSTD Group N=13	5.58	1.26	6.63	0.59	1.05	4.60**
Control Group N=13	5.49	0.72	5.72	0.58	.23	1.33
Mean Difference	.09		.91			
Between Group t-value	.22		4.00**			

Scale: 1, Strongly disagree to 7, Strongly agree on 7-point Likert Scale

**p<0.01
* p<0.05

Hypothesis 2 was designed to determine if principals trained in the CLSTD Model provide more effective feedback on teachers' cooperative learning lesson plans than principals who did not receive the training. Data from the Supervisor Conference Effectiveness Survey were used to test this hypothesis. The null hypothesis was tested using the t-test group procedure comparing the means of the experimental (CLSTD) and control groups for differences to determine the treatment effects.

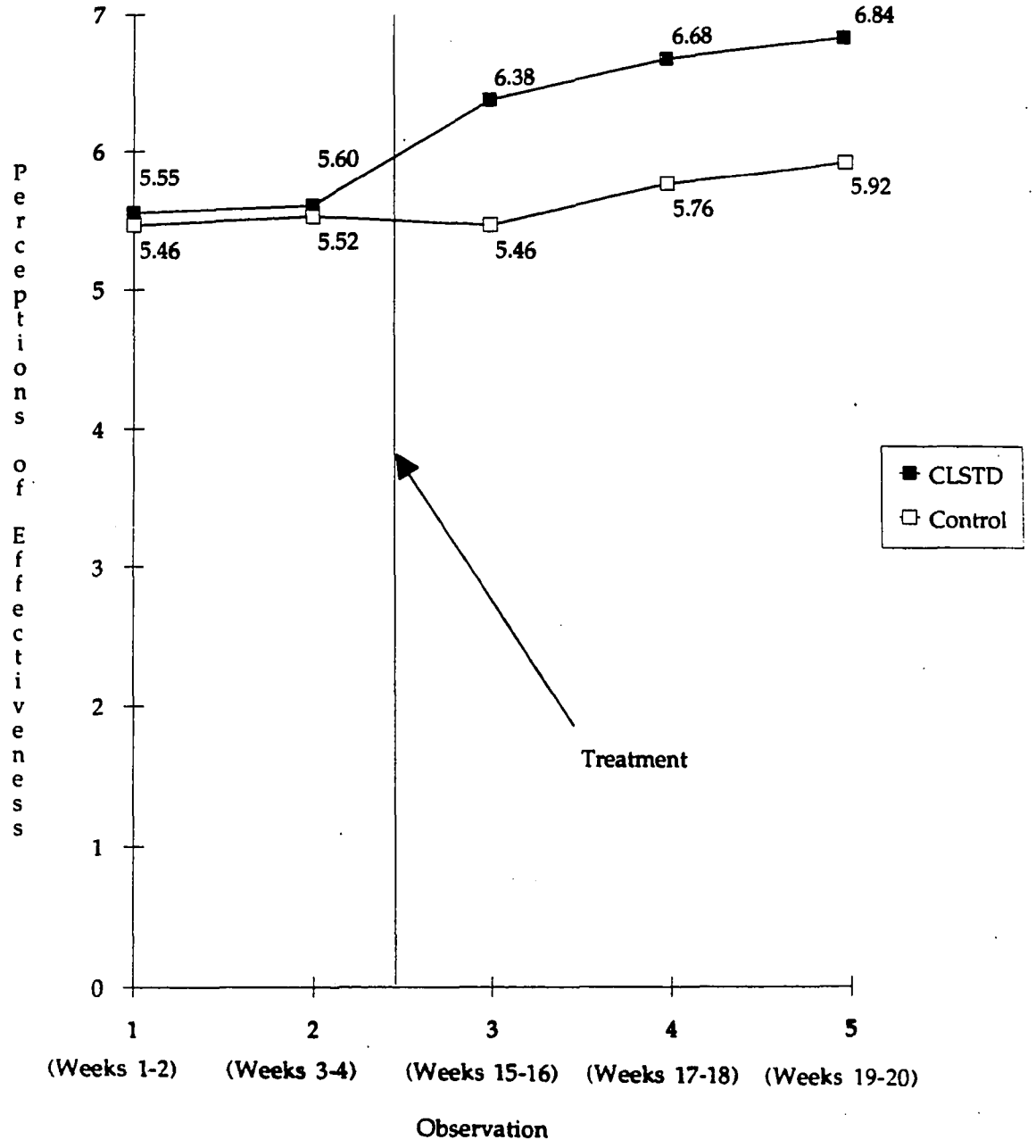

Figure 4. Mean ratings of teachers' perceptions of CLSTD and control group principals' effectiveness in providing feedback about teachers' cooperative learning lesson plans for observation one through observation five

Table 3 presents the data utilized to test Hypothesis 2. Analysis of pretest scores revealed no significant difference between the self-ratings of effectiveness of principals who received training $\overline{X}$ (5.35) and those who did not $\overline{X}$ (5.42), (t-value = .21, p> .05). Self-perceptions of effectiveness in providing feedback about cooperative learning lesson plans of principals in the CLSTD group increased significantly from the pretest $\overline{X}$ (5.35) to the posttest $\overline{X}$ (6.49). The mean difference was 1.14, which was highly significant (t= 5.60, p < .01). The effectiveness of feedback of the control group did not increase significantly from the pretest $\overline{X}$ (5.42) to the posttest $\overline{X}$ (5.72), (t = 2.02, p < .05). The difference in posttest means between principals in the CLSTD group and those in the control group was .77. The t-value was 2.82, which was highly significant. Thus, Hypothesis 2 was rejected.

Mean ratings of principals' self perceptions of effectiveness in providing feedback about teachers' cooperative lesson plans for each of five observations of study teachers were compared. Figure 5 displays a line graph which shows mean scores from 5.30, the first observation to 6.85, the fifth observation in the CLSTD group and 5.32 to 5.92 in the control group.

Providing Specific Feedback on Major Parts of the Lesson

Hypothesis 3: There is no significant difference between teachers' perceptions of the effectiveness of principals trained via the CLSTD Model in providing specific feedback about the major parts of a cooperative learning lesson and principals not trained via the CLSTD Model.in providing specific feedback about the major parts of a cooperative learning lesson.

Table 3. Analysis of pretest and posttest mean scores of CLSTD and control group principals' self-perceptions of effectiveness in providing feedback about teachers' cooperative learning lesson plans

Principal Groups	Pretest Mean	S.D.	Posttest Mean	S.D.	Mean Difference	Within Group t-value
CLSTD Group N=13	5.35	0.80	6.49	0.56	1.14	5.60**
Control Group N=13	5.42	1.02	5.72	0.82	.30	2.02
Mean Difference	-.07		.77			
Between Group t-value	-0.21		2.82**			

Scale: 1, Strongly disagree to 7, Strongly agree on 7-point Likert Scale

** $p<0.01$
* $p<0.05$

Hypothesis 3 was designed to determine if principals trained in the Cooperative Learning Supervision Training and Development Model (CLSTD) provide teachers more specific feedback about the three major parts of the cooperative lesson (making organizational decisions, setting the lesson, and monitoring and processing the lesson) than principals who do not receive the training. Data from the Teacher Evaluation Inventory and Profile were

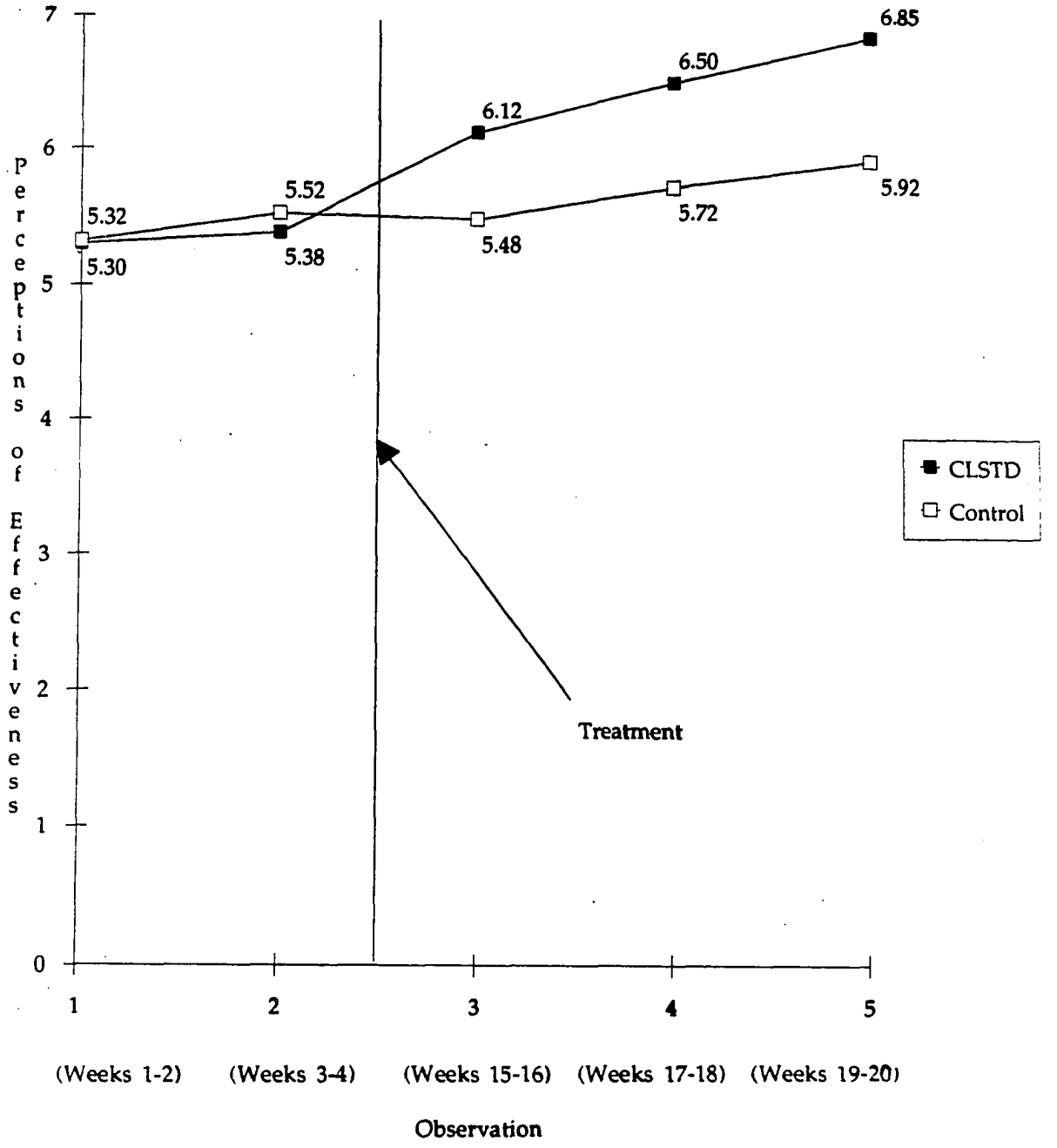

Figure 5. Mean ratings of CLSTD and control principals' self-perceptions of effectiveness in providing feedback about teachers' cooperative learning lesson plans for observation one through observation five

used to test the hypothesis. The null hypothesis was tested using the t-test group procedure comparing the means of the experimental (CLSTD) and control groups for differences to determine the treatment effects.

Table 4 presents the data for examining teachers' perceptions of the effectiveness of the specific feedback received about the three major parts of the cooperative learning lesson. Analysis of pretest scores revealed no significant difference between the ratings of the effectiveness of the two groups prior to the training. The CLSTD group scores were 5.14 and the control group was 4.99 (t-value = .35, p> .05). Teachers' perceptions of effectiveness of the CLSTD principals providing feedback about the major parts of a cooperative lesson increased from the pretest mean $\overline{X}$(5.14) to the posttest $\overline{X}$ (6.62). The mean difference was 1.48, which was highly significant (t = 8.45, p < .001). The effectiveness of the control group decreased slightly from the pretest $\overline{X}$ (4.99) to the posttest $\overline{X}$ (4.84), (t = 77, p < .05). The difference in posttest means between principals in the CLSTD group and those in the control group was 1.78. The t-value was 4.66, which was highly significant. Thus, Hypothesis 3 was rejected.

Mean ratings of teachers' perceptions of principals' effectiveness in providing specific feedback on the three major parts of a cooperative learning lesson for each of the five observations of study teachers were compared. Figure 6 displays a line graph which shows mean scores from 4.85, the first observation to 6.85, the fifth observation, in the CLSTD group and 4.77 to 4.90 in the control group.

Table 4. Analysis of pretest and posttest mean scores of CLSTD and control group teachers' perceptions of principals' effectiveness in providing specific feedback about the three major parts of the cooperative lesson

Principal Groups	Pretest Mean	S.D.	Posttest Mean	S.D.	Mean Difference	Within Group t-value
CLSTD Group N=13	5.14	0.69	6.62	0.49	1.48	8.45**
Control Group N=13	4.99	1.40	4.84	1.29	-.15	.77
Mean Difference	.15		1.78			
Between Group t-value	0.35		4.66**			

Scale: 1, Strongly disagree to 7, Strongly agree on 7-point Likert Scale

**p<0.01
* p<0.05

Hypothesis 4: There is no significant difference between the self-perceptions of the effectiveness of the principals trained via the CLSTD Model in providing specific feedback on the major parts of a cooperative lesson and the self-perceptions of effectiveness of principals not trained via the CLSTD Model in providing specific feedback about the major parts of a cooperative lesson.

Hypothesis 4 was designed to determine if principals trained in the Cooperative Learning Supervision Training and Development

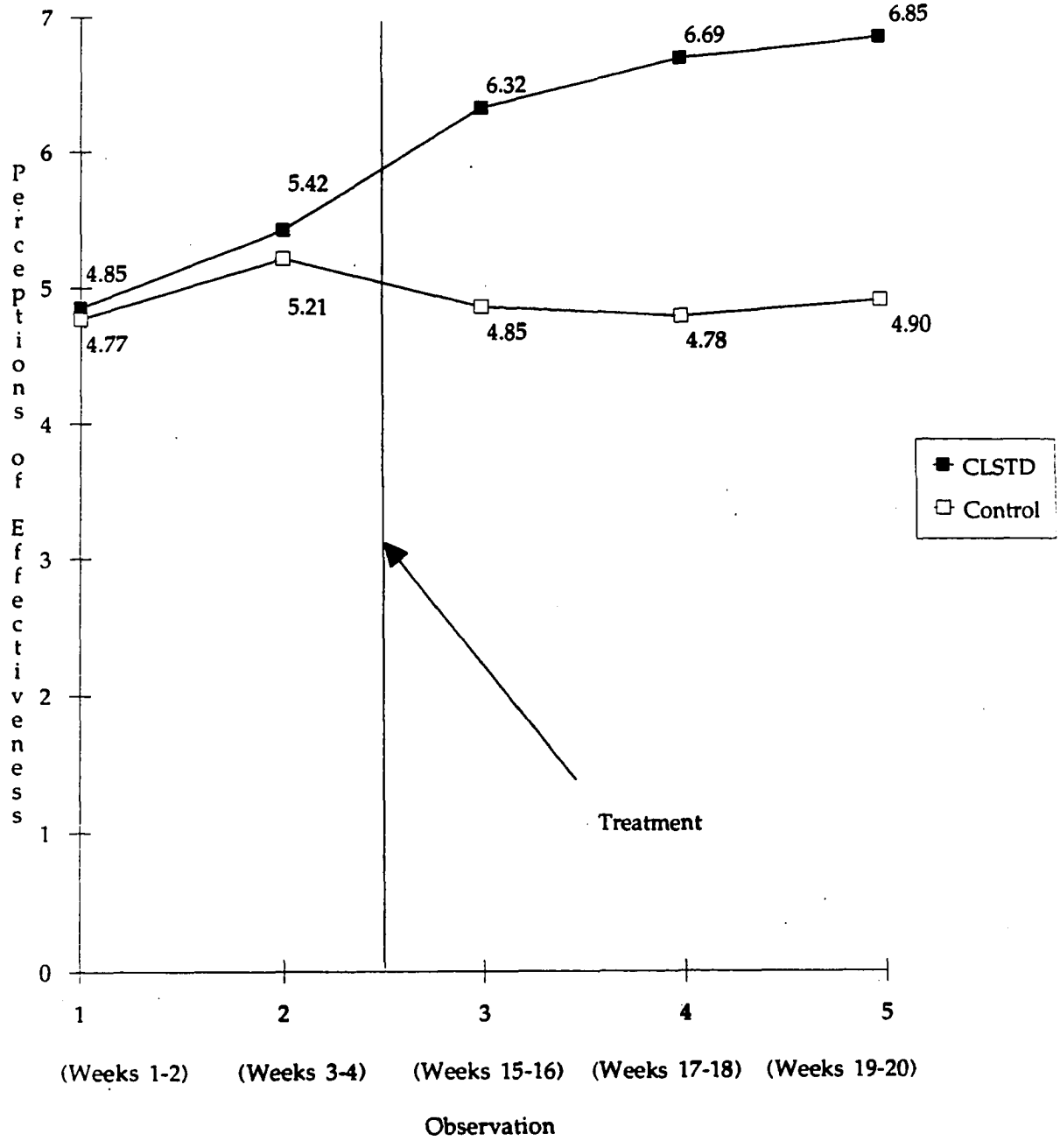

Figure 6. Mean ratings of teachers' perceptions of CLSTD and control principals' effectiveness in providing feedback about the three major parts of a cooperative learning lesson for observation one through observation five

(CLSTD) provide teachers more specific feedback about the three major parts of the cooperative lesson (making organizational decisions, setting the lesson, and monitoring and processing the lesson) than principals who do not receive the training. Data from the Supervisor Conference Effectiveness Survey were used to test the hypothesis. The null hypothesis was tested using the t-test group procedure, comparing the means of the experimental (CLSTD) and control groups for differences to determine the treatment effects.

Table 5 presents the data utilized to test Hypothesis 4. Analysis of pretest scores revealed no significant difference between the self-ratings of effectiveness of principals who received training $\overline{X}$ (4.54) and those who did not $\overline{X}$ (5.04), (t-value =1.43., p> .05). Self-perceptions of effectiveness in providing specific feedback about the major parts of the cooperative lesson of principals in the CLSTD group increased from the pretest $\overline{X}$ (4.54) to the posttest $\overline{X}$ (6.33). The mean difference was 1.79, which was highly significant ($t = 10.98$, $P < .001$). The effectiveness of specific feedback of the control group did not increase significantly from the pretest $\overline{X}$ (5.04) to the posttest $\overline{X}$ (5.26), ($t = 1.84$, $p < .05$). The difference in posttest means between principals in the CLSTD group and those in the control group was 1.07. The t-value was 3.71, which was highly significant. Thus, Hypothesis 4 was rejected.

Mean ratings of principals' self-perceptions of effectiveness in providing specific feedback on the three major parts of a cooperative learning lesson for the five observations of study teachers were compared. Figure 7 displays a line graph which shows mean scores from 4.46, the first observation to 6.69, the fifth observation, in the CLSTD group and 5.00 to 5.23 in the control group.

Table 5. Analysis of pretest and posttest mean scores of CLSTD and control group principals' self-perceptions of effectiveness in providing specific feedback about the three major parts of the cooperative lesson

Principal Groups	Pretest Mean	S.D.	Posttest Mean	S.D.	Mean Difference	Within Group t-value
CLSTD Group N=13	4.54	0.63	6.33	0.45	1.79	10.98**
Control Group N=13	5.04	1.09	5.26	0.94	.22	1.84
Mean Difference	-.50		1.07			
Between Group t-value	-1.43		3.71**			

Scale: 1, Strongly disagree to 7, Strongly agree on 7-point Likert Scale

**p< .01
* p< 05

Knowledge and Usage of Cooperative Learning Concepts

Hypothesis 5: There is no significant difference between teachers' perceptions of principals' knowledge and effectiveness of usage of cooperative learning concepts during the postobservation conference of principals trained via the CLSTD Model and teachers' perceptions of principals' knowledge and effectiveness of usage of cooperative learning during the postobservation conference of principals not trained via the CLSTD Model.

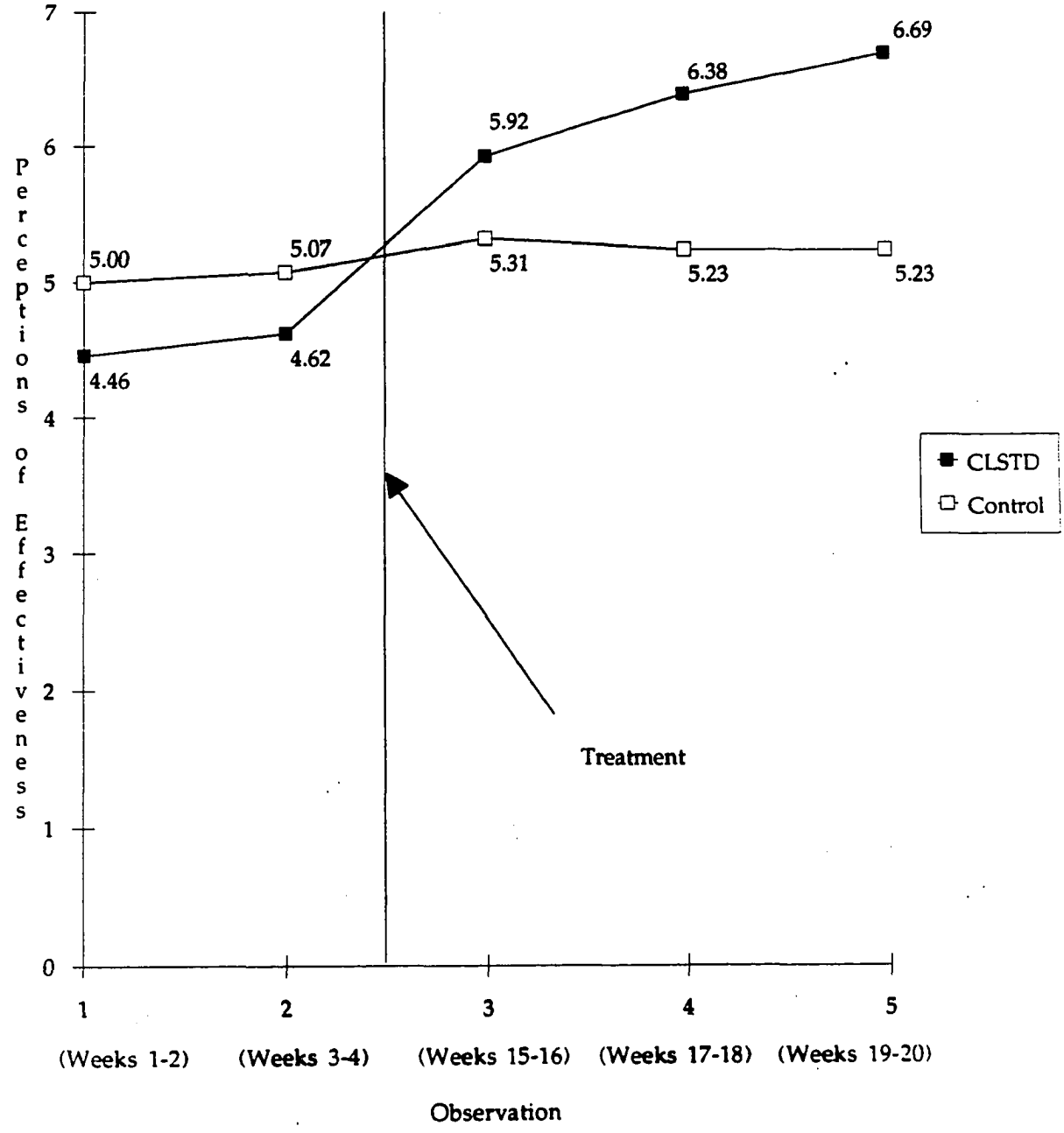

Figure 7. Mean ratings of CLSTD and control group principals' self-perceptions of effectiveness in providing feedback about the three major parts of a cooperative learning lesson for observation one through observation five

Hypothesis 5 was designed to determine if principals trained in the CLSTD Model were more knowledgeable and effective in use of cooperative learning concepts used in the postobservation conference than principals who do not receive the training. Data from the Teacher Evaluation Inventory and Profile were used to test the hypothesis, using the t-test group procedure to compare the means of the experimental (CLSTD) and control groups for differences to determine treatment effects.

Table 6 presents the data utilized to test Hypothesis 5. Analysis of pretest scores revealed no significant difference between the ratings of the two groups of principals prior to the training (t-value = .09, $p < .05$). The CLSTD pretest score was 5.38 and the control group was 5.35. Perceptions of effectiveness for the CLSTD group in knowledge and the use of cooperative learning concepts increased significantly from the pretest mean $\overline{X}$ (5.38) to the posttest $\overline{X}$ (6.62). The mean difference was 1.24, which was highly significant ($t = 10.95$, $p < .001$). The perceptions of effectiveness of the control group did not increase significantly from the pretest $\overline{X}$ (5.35) to the posttest $\overline{X}$ (5.59), ($t = 1.72$, $p < .05$). The difference in posttest means between principals in the CLSTD group and those in the control group was 1.02. The t-value of 2.80 was highly significant. Thus, Hypothesis 5 was rejected.

Mean ratings of teachers' perceptions of principals' knowledge and effectiveness of usage of cooperative learning concepts during postobservation conference for each of the five observations were compared. The line graph in figure 8 indicates mean scores ranging from 5.23,the first observation to 6.85, the fifth observation, in the CLSTD group and 5.23 to 5.62 in the control group.

Table 6. Analysis of pretest and posttest mean scores of CLSTD and control group teachers' perceptions of principals' knowledge and effectiveness of usage of cooperative learning concepts used during the postobservation conference

Principal Groups	Pretest Mean	S.D.	Posttest Mean	S.D.	Mean Difference	Within Group t-value
CLSTD Group N=13	5.38	0.51	6.62	0.45	1.24	10.95**
Control Group N=13	5.35	1.46	5.59	1.24	.25	1.72
Mean Difference	.03		1.03			
Between Group t-value	.09		2.80*			

Scale: 1, Strongly disagree to 7, Strongly agree on 7-point Likert Scale

**p< .01
* p< .05

Hypothesis 6: There is no significant difference between the self-perceptions of principals' trained via the CLSTD Model of their knowledge and effectiveness of usage of the cooperative learning concepts during the postobservation conference and the self-perceptions of principals not trained via the CLSTD Model of their knowledge and effectiveness of usage of the cooperative learning concepts during the postobservation conference.

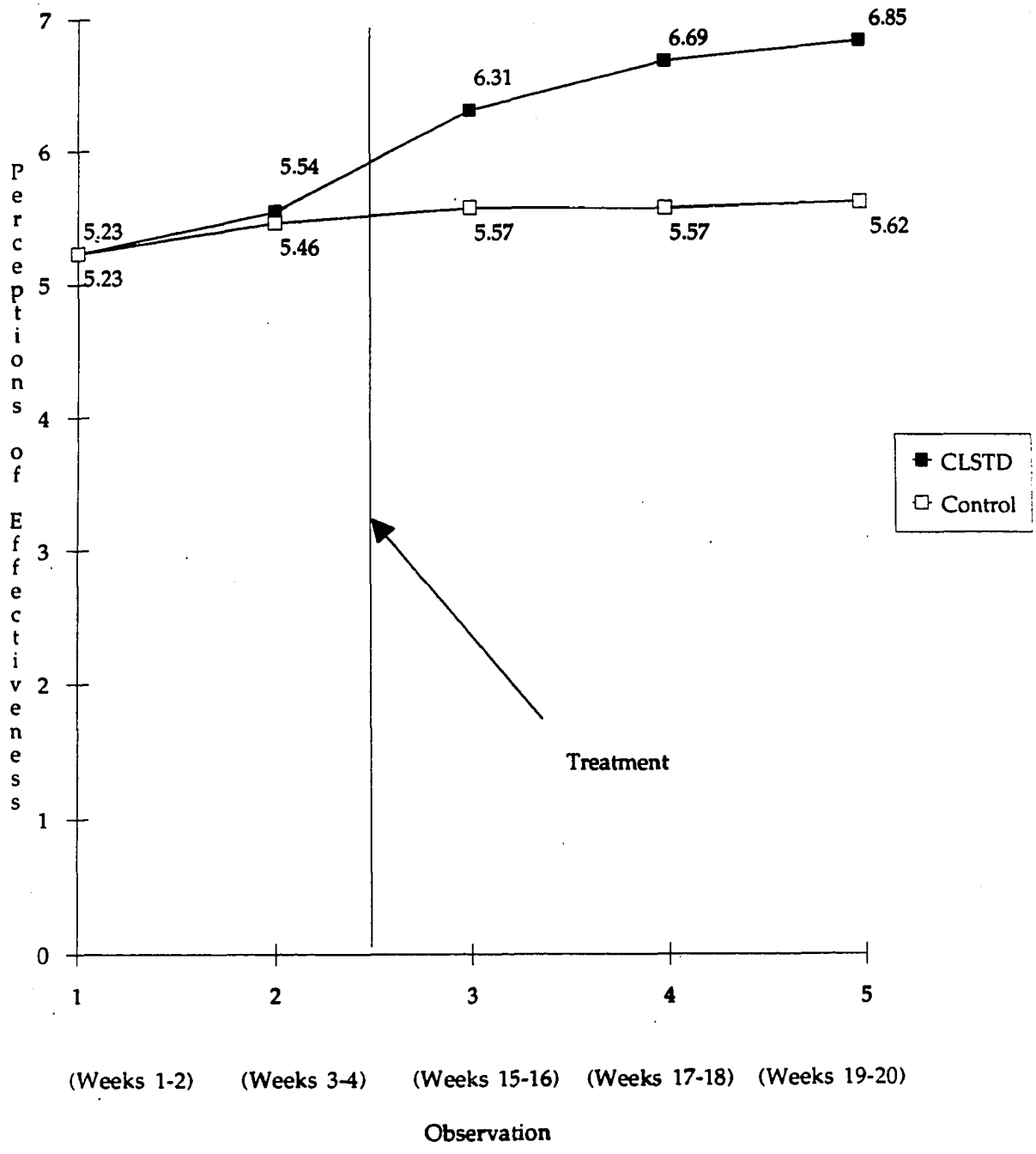

Figure 8 Mean ratings of teachers' perceptions of CLSTD and control group principals' knowledge and effectiveness of usage of cooperative learning concepts used during the postobservation conference for observation one through observation five

Hypothesis 6 was designed to determine if principals trained in the Cooperative Learning Supervision Training and Development Model (CLSTD) perceived themselves more knowledgeable and effective in usage of cooperative learning concepts in the postobservation conference than principals who did not receive the training. Data from the Supervisor Conference Effectiveness Survey were used to test the hypothesis. The null hypothesis was tested using the t-test group procedure comparing the means of the experimental (CLSTD) and control groups for differences to determine the treatment effects.

Table 7 presents the data utilized to test Hypothesis 6. Analysis of pretest scores revealed no significant difference between the self-ratings of the effectiveness of principals who received training $\overline{X}$ (5.08) and those who did not $\overline{X}$ (5.15), (t-value = .22, $p > .05$). The perceptions of effectiveness of the Cooperative Learning Supervision Training and Development Model principals knowledge and use of cooperative learning concepts increased from the pretest $\overline{X}$ (5.08) to the posttest $\overline{X}$ (6.38). The mean difference was 1.30, which was highly significant ($t = 5.84$, $p < .001$). The effectiveness of the control group did not increase significantly from the pre-test $\overline{X}$ (5.15), to the posttest $\overline{X}$ (5.36) ($t = 2.08$, $p < .05$). The difference in the posttest means between the principals in the CLSTD group was 1.02. The t-value was 3.53, which was highly significant. Thus, Hypothesis 6 was rejected.

Mean ratings of principals' self-perceptions of knowledge and effectiveness in the usage of cooperative learning concepts used during the

Table 7. Analysis of pretest and posttest mean scores of CLSTD and control group principals' self-perceptions of knowledge and effectiveness of usage of cooperative learning concepts used during the postobservation conference

Principal Groups	Pretest Mean	S.D.	Posttest Mean	S.D.	Mean Difference	Within Group t-value
CLSTD Group N=13	5.08	0.98	6.38	0.47	1.30	5.84**
Control Group N=13	5.15	0.83	5.36	0.94	.21	2.08
Mean Difference	-.07		1.02			
Between Group t-value	-.22		3.53**			

Scale: 1, Strongly disagree to 7, Strongly agree on a 7 point Likert Scale

**p< .01
* p< .05

postobservation conference for each of the five observations of study teachers were compared. Figure 9 displays a line graph which shows mean scores ranging from 5.00, the first observation to 6.54, the fifth observation, in the CLSTD group and 5.07 to 5.76 in the control group.

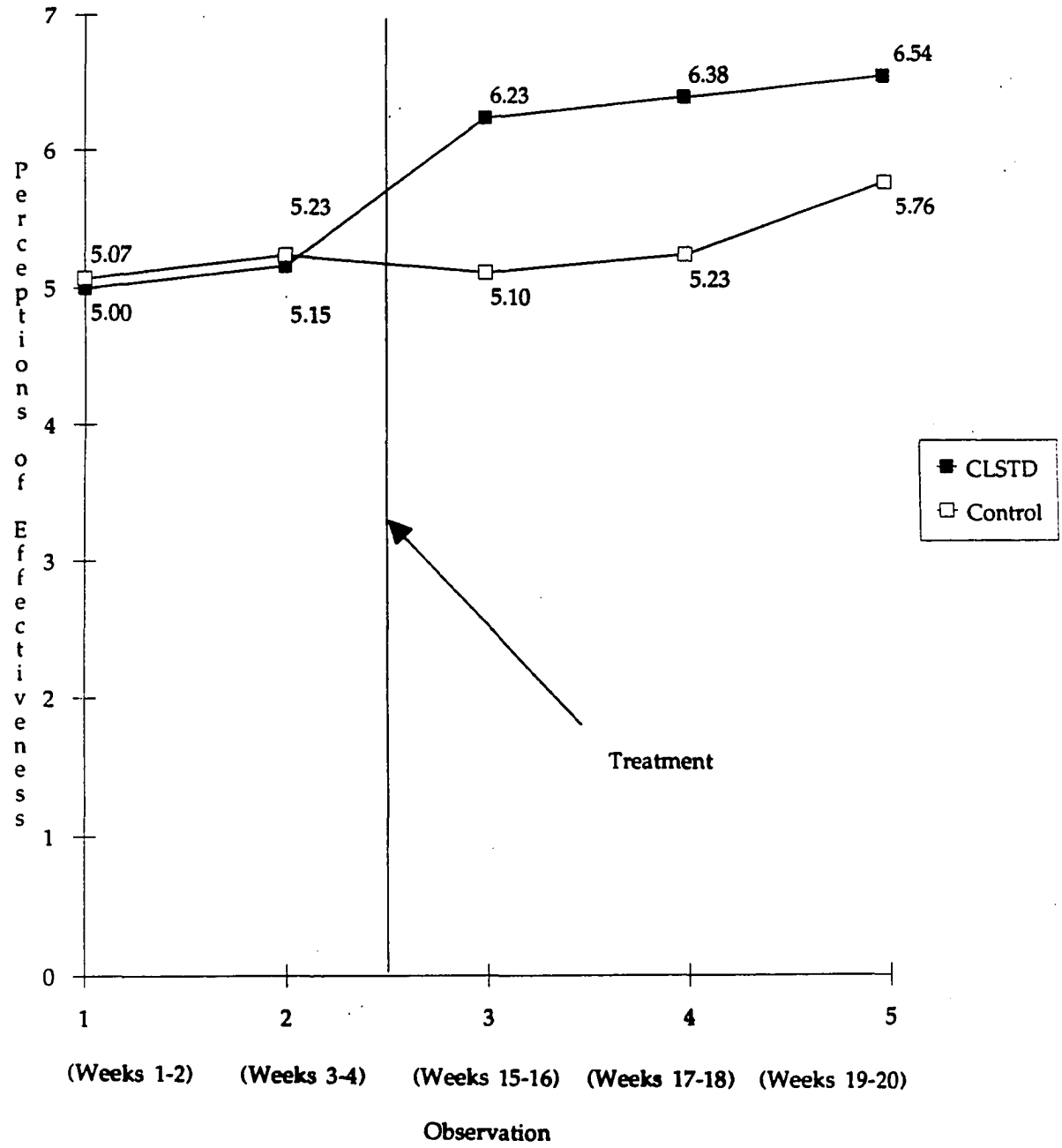

Figure 9. Mean ratings of CLSTD and control group principals' self-perceptions of knowledge and effectiveness of usage of cooperative learning concepts used during the postobservation conference for observation one through observation five

Principals' Levels of Confidence

Hypothesis 7: There is no significant difference in the self-perceptions in levels of confidence of principals trained via the CLSTD Model in using selected skill components in supervising cooperative learning and the self-perceptions in levels of confidence of principals not trained via the CLSTD Model in using selected skill components in supervising cooperative learning.

Hypothesis 7 was designed to determine if principals were more confident in selected skill components of cooperative learning after training via the CLSTD Model than principals not trained via CLSTD. Cooperative learning supervision skills were: gathering pertinent data, identifying important areas which improve classroom performance, analyzing data correctly, deciding what to record when observing, providing specific examples for feedback, and making decisions pertaining to appropriateness of a cooperative lesson. Data from the Supervisor Attitude Survey were used to test the hypothesis. The null hypothesis was tested using the t-test group procedure, comparing the means of the experimental (CLSTD) and control groups for differences to determine the treatment effects.

Table 8 presents the data utilized to test Hypothesis 7. Analysis of pretest scores revealed no significant difference between self-perceptions in levels of confidence of principals who received training $\overline{X}$ (5.01) and those who did not $\overline{X}$ (5.28), (t-value = 1.00, $p > .05$). Levels of confidence using each of the six cooperative learning supervision skills for the CLSTD principals increased significantly from pretest $\overline{X}$(5.01) to posttest $\overline{X}$ (6.37). The mean difference was 1.36, which was highly significant ($t = 8.08$, $p < .001$). The self-perceptions of the level of confidence of the control group did not increase significantly

Table 8. Analysis of pretest and posttest mean scores of CLSTD and control group principals' self-perceptions of levels of confidence in six skill components in supervising teachers who use cooperative learning

Principal Groups	Pretest Mean	S.D.	Posttest Mean	S.D.	Mean Difference	Within Group t-value
CLSTD Group N=13	5.01	0.57	6.37	0.43	1.36	8.08**
Control Group N=13	5.28	0.75	5.17	0.71	-.11	.74
Mean Difference	-.27		1.20			
Between Group t-value	1.00		5.17**			

Scale: 1, Strongly disagree to 7, Strongly agree on a 7 point Likert Scale

**p< .01
* p< .05

from the pretest $\overline{X}$ (5.28) to the posttest $\overline{X}$ (5.17) with a t-value of .74, (t = .74, p < .05). The difference in posttest means between principals in the CLSTD group and those in the control group was 1.20. The t-value was 5.17, which was highly significant. Thus, Hypothesis 7 was rejected.

Mean ratings of principals' self-perceptions of confidence levels in cooperative learning supervision skills for each of five observations were compared. The line graph in Figure 10 shows mean scores from 4.92, the first

observation to 6.66, the fifth observation, in the CLSTD group and 5.21 to 5.33 in the control group.

Principals' Sense of Efficacy

Hypothesis 8: There is no significant difference in self-perceptions in the sense of efficacy of principals trained in the CLSTD Model in supervising cooperative learning and self-perceptions in the sense of efficacy of principals not trained via the CLSTD Model in supervising cooperative learning.

Hypothesis 8 was designed to determine if principals' sense of efficacy in supervising cooperative learning is greater after training via the CLSTD Model than principals not trained via the CLSTD Model. Data from the Supervisor Attitude Survey were used to test the hypothesis. The null hypothesis was tested using the t-test group procedure comparing the means of the experimental (CLSTD) and control groups for differences to determine the treatment effects.

Table 9 presents the data utilized to test Hypothesis 8. Analysis of pretest scores revealed no significant difference between self-perceptions in sense of efficacy of principals trained $\overline{X}$ (5.15) and those not $\overline{X}$ (5.35), (t-value = .68, $p < .05$). Sense of efficacy for principals trained in CLSTD increased significantly from pretest $\overline{X}$ (5.15) to posttest $\overline{X}$ (6.61). The mean difference was 1.46, which was highly significant ($t = 8.71$, $p < .001$). Self-perceptions of sense of efficacy of the control group decreased from pretest $\overline{X}$(5.35) to posttest $\overline{X}$ (5.00) ($t = 2.62$, $p < .05$). The difference in posttest means between principals in the CLSTD

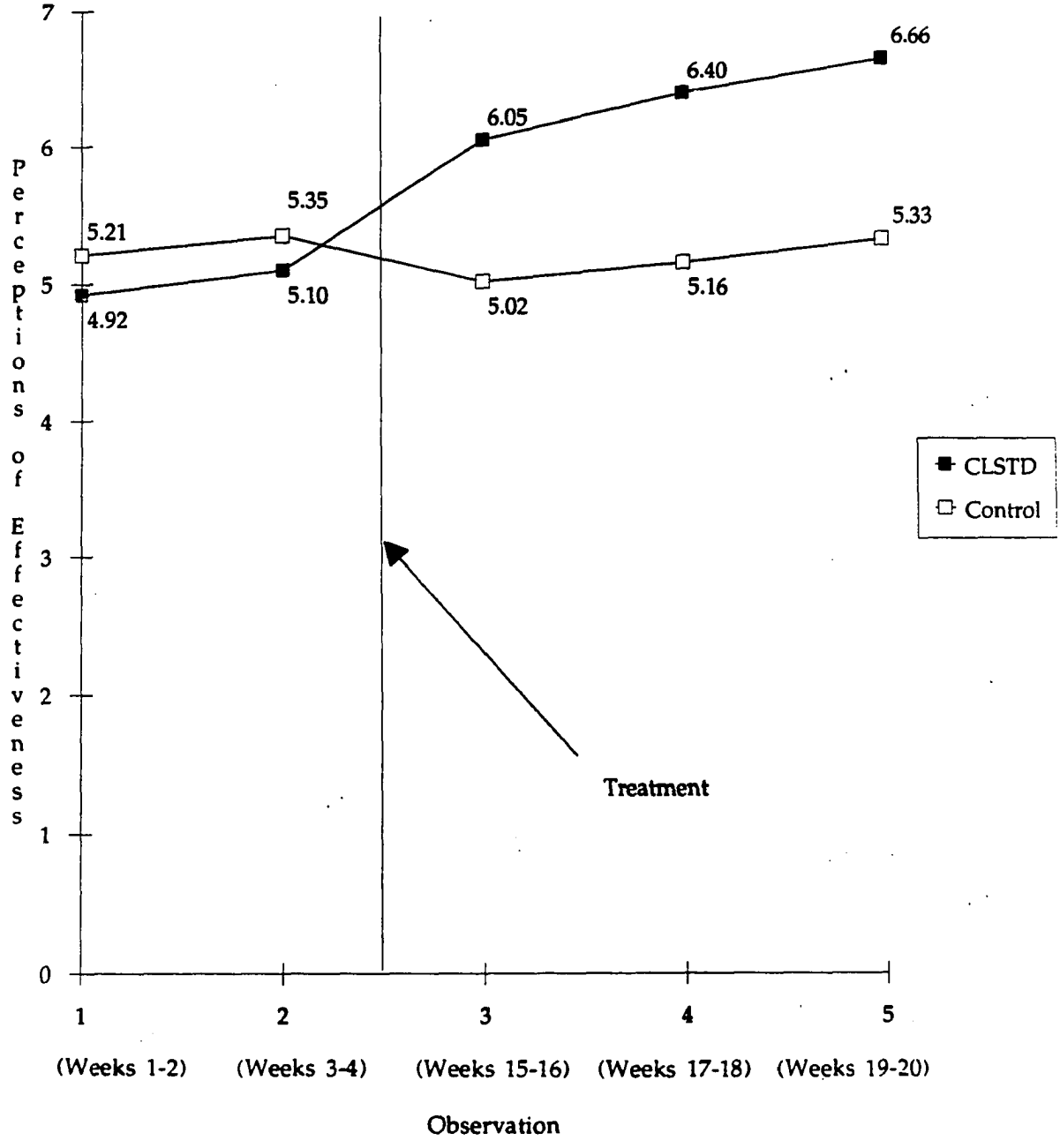

Figure 10. Mean ratings of CLSTD and control group principals' self-perceptions of levels of confidence in using six selected skill components in supervising cooperative learning for observation one through observation five

Table 9. Analysis of pretest and posttest mean scores of CLSTD and control group principals' self-perceptions of sense of efficacy in supervising teachers who use cooperative learning

Principal Groups	Pretest Mean	S.D.	Posttest Mean	S.D.	Mean Difference	Within Group t-value
CLSTD Group N=13	5.15	0.77	6.61	0.45	1.46	8.71**
Control Group N=13	5.35	0.66	5.00	0.54	-.35	2.62
Mean Difference	-.20		1.61			
Between Group t-value	-0.68		8.27**			

Scale: 1, Strongly disagree to 7, Strongly agree on 7 point Likert Scale

**p<0.01
* p<0.05

group and those in the control group was 1.61. The t-value is 8.27, which was highly significant. Thus, Hypothesis 8 was rejected.

Mean ratings of principals' self-perceptions of sense of efficacy in supervising teachers who use cooperative learning for each of the five observations were compared. Figure 11 displays a line graph which shows mean scores from 5.00, the first observation to 6.85, the fifth observation, in the CLSTD group and 5.31 to 5.08 in the control group.

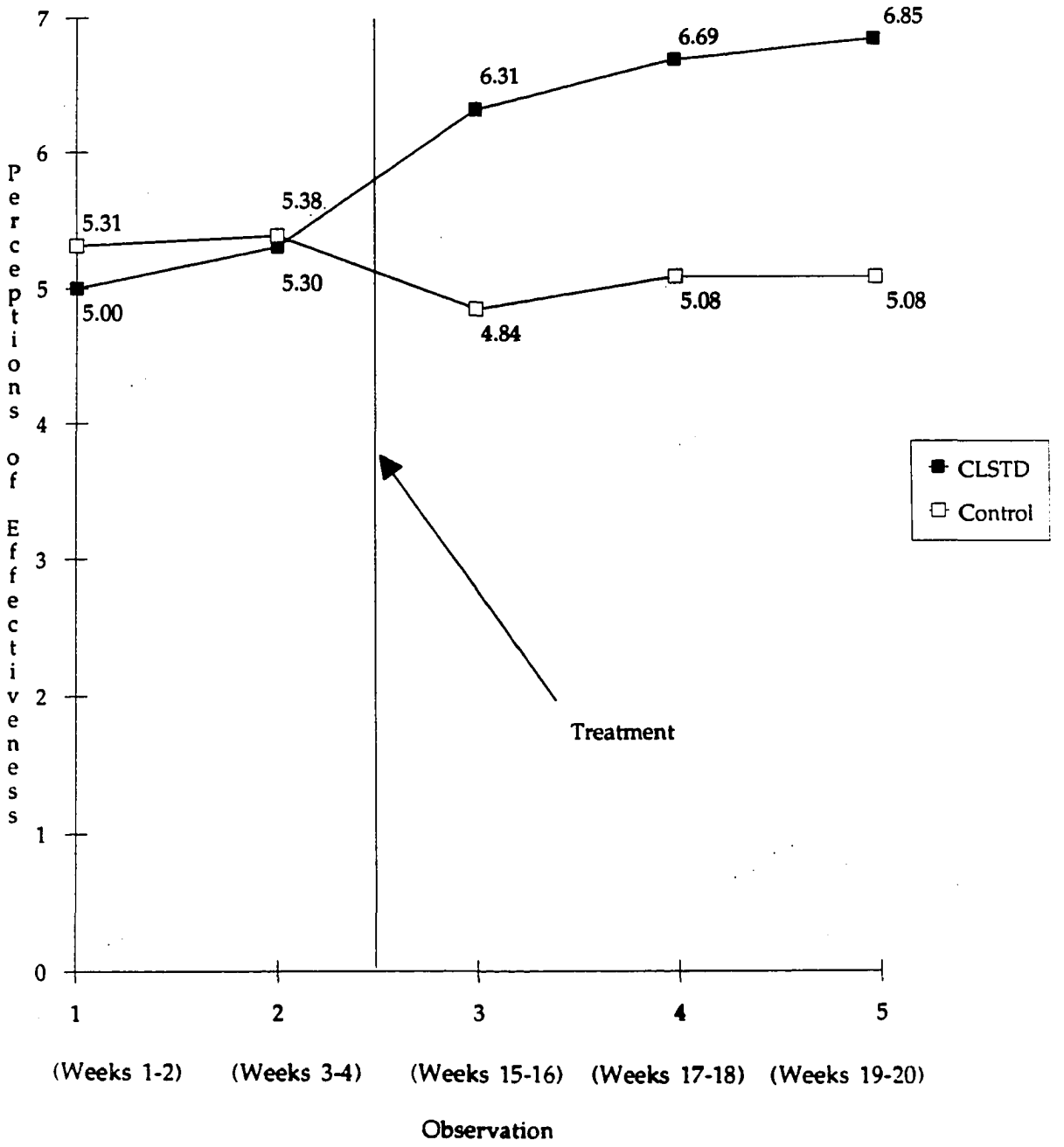

Figure 11. Mean ratings of CLSTD and control principals' self perceptions of sense of efficacy in supervision of teachers who use cooperative learning for observation one through observation five

CHAPTER V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

A primary concern of educational leaders is improving teaching through the supervision of instruction. Principals require specialized skills to assist teachers in the improvement of instruction, When conducting classroom observations, principals must know what to look for, how to look, how to record what is seen, and later, must know how to analyze data and provide teachers with feedback (Oliva, 1989). Although supervision techniques have been established for most instructional strategies, none has been developed for cooperative learning.

The literature, however, has revealed that supervision skills can be taught and that the most effective training and development programs are comprised of five training components (Joyce & Showers, 1983). The first four components include: theory, demonstration, practice, and feedback. When combined with the fifth component, peer coaching, all five have the greatest power for the development of a new skill (Bennett, 1987; Joyce & Showers, 1983).

This study examined the effectiveness of a Cooperative Learning Supervision Training and Development Model (CLSTD). The major tasks completed for the study included: (1) creating an inservice training and development model for enhancing principals' skills in data collection, data analysis, and feedback for the supervision of cooperative learning; (2) developing instrumentation and procedures for the study; (3) identifying techniques for data gathering when observing a cooperative learning lesson; (4) developing special data-gathering techniques for the "monitoring" part of

the cooperative lesson; (5) designing two, one-day training sessions; (6) conducting the training workshops; and (7) designing the peer coaching component of the model for practice and development of the newly acquired cooperative learning supervision skills.

In this chapter, conclusions from the study based on the analysis of the data are reported, limitations are delineated, and recommendations for further research are conveyed. The chapter has been organized into three sections: (1) summary and conclusions; (2) limitations; and (3) recommendations for further research.

Summary and Conclusions

This study was designed to examine effects of CLSTD Model training on (1) teachers' perceptions of principals' effectiveness in collecting data, analyzing data, and providing feedback about a cooperative learning lesson; (2) principals' self-perceptions of effectiveness in collecting data, analyzing data, and providing feedback about a cooperative learning lesson; and (3) principals' self-perceptions of levels of confidence and sense of efficacy when supervising teachers who use cooperative learning.

Findings

The following is a summary of the findings:

1. Teachers in the CLSTD group reported that there was a significant increase in principals' effectiveness in providing feedback to teachers about their cooperative learning lesson plans. Teachers in the control

group reported no increase in principals' effectiveness in providing feedback about their cooperative learning lesson plans.

2. Principals in the CLSTD group reported a significant increase in their effectiveness in providing feedback about teachers' cooperative learning lesson plans. Principals in the control group reported no significant increase in their effectiveness in providing feedback about teachers' cooperative learning lesson plans.
3. Teachers in the CLSTD group reported a significant increase in principals' effectiveness in providing specific feedback about the three major parts of the cooperative learning lesson. Control group teachers reported no significant increase in principals' effectiveness in providing specific feedback about the three major parts of the cooperative lesson. In fact, teachers in the control group rated principals less effective at the time of the posttest than they did at the time of the pretest.
4. Principals in the CLSTD group reported a significant increase in effectiveness in providing specific feedback about the three major parts of the cooperative learning lesson. Control group principals reported no significant increase in effectiveness in providing specific feedback about the three major parts of the cooperative lesson.
5. Teachers in the CLSTD group reported a significant increase in principals' knowledge and effectiveness in use of cooperative learning concepts during the postobservation conference. Teachers in the control group reported no significant increase in principals'

knowledge and effectiveness in use of cooperative learning concepts during the postobservation conference.

6. Principals in the CLSTD group reported a significant increase in knowledge and effectiveness in use of cooperative learning concepts during the postobservation conference. Principals in the control reported no significant increase in knowledge and effectiveness in use of cooperative learning concepts.
7. Principals in the CLSTD group reported a significant increase in levels of confidence in selected cooperative learning supervision skills after training. These skills included: making decisions about what to record, identifying areas to help teachers improve, collecting data, analyzing data, providing feedback, and making decisions about the appropriateness of a cooperative learning lesson. Control group principals reported a slight decline in levels of confidence in the selected cooperative learning supervision skills.
8. Principals in the CLSTD group reported a significantly higher sense of efficacy in supervising cooperative learning. Principals in the control group reported a lower sense of efficacy in their supervision of cooperative learning at the end of the study than they did at the beginning.

Discussion

The findings of this study have implications for building principals, teachers, staff development trainers, curriculum and instruction directors, and

educators involved in the supervision of cooperative learning . The findings appear to have great potential for improving teacher performance while using cooperative learning in the classroom. Following is a discussion of those most salient.

Although principals' effectiveness in cooperative learning increased significantly in many categories after training via the CLSTD Model, the greatest change was in "providing specific feedback about the three major parts of the cooperative lesson." Duke and Stiggins (1988) contend that feedback is the most important supervision skill needed to improve teacher performance. Cohn (1990) and Ellis (1987) maintain that specific feedback about the major parts of the cooperative learning lesson, rather than more general talk about implementation, was most effective in improving teaching performance. Thus, the findings in this study take on great significance. The significant increase in scores suggests that the training was effective in enhancing principals' skills in giving specific feedback to teachers. It was interesting that control group teachers rated their principals' effectiveness in providing specific feedback lower at the end of the study than in the beginning. Perhaps this could be a result of the teachers becoming slightly frustrated when principals were unable to provide them specific feedback.

Principals in the CLSTD group were also more effective in providing "feedback on the cooperative lesson plan." The gain may not have been as great because both had previous training in developing a cooperative learning lesson plan. During their training in the thirty-hour foundation course in cooperative learning, principals learned about using the cooperative learning

lesson plan. In fact, the training required the participants to construct a lesson plan and share it with other group members. Although it appears that significant learning took place with the CLSTD group, both principals and teachers may have felt the principals had an adequate knowledge level about the cooperative lesson plan when they began the study. These findings support Oliva's (1989) conclusion that the use of well-constructed lesson plans are an essential process for effective teaching with the ultimate aim of enhancing student learning. Brophy and Good's (1986) review of research indicates that teachers who produced high achieving students were the most organized, using a daily lesson plan developed prior to instruction. It appears important for improvement of cooperative learning instruction that principals provide teachers the necessary feedback on the cooperative lesson plan to promote better instruction.

The CLSTD principals were rated higher in the effectiveness measure "knowledge and usage of cooperative learning concepts." In explaining the difference in the findings between the CLSTD and control groups, it seems likely that the CLSTD group became more knowledgeable about cooperative learning as they worked with trainers, talked with their principal study partners in the peer coaching practice sessions, and asked questions and shared information during the debriefing portion of the second training workshop. This finding appears to indicate that as principals begin to focus on the supervision of cooperative learning, their knowledge level will increase, enhancing their effectiveness in supervising teachers who use cooperative learning.

The CLSTD training had a significant effect on principals' levels of confidence in each of the selected skill areas of cooperative learning. Principals reported the most confidence gains in "identifying areas of improvement" and in "data gathering"skills which were new learning for the CLSTD group. Given the repeated relationship between self-confidence and performance (Saunders, 1984), a feeling of competence may have impacted the effectiveness in supervising cooperative learning. This level of confidence is basic to success . The control group's perceptions of confidence, however, decreased slightly with the greatest decrease in "providing specific feedback to teachers." Perhaps as the control group principals became more involved in supervising cooperative learning, they realized they really did not know how to provide teachers with the feedback which was necessary to help them. This has implications for principals who supervise teachers of cooperative learning. If principals are provided with the knowledge and skills they need to supervise cooperative learning, their levels of confidence will increase, which, in turn, helps them become more effective.

Sense of efficacy of principals also increased. Given the relationship between sense of efficacy and the persistence with which one will face obstacles (Bandura, 1982), this increase has implications for how principals approach the supervision of teachers who use cooperative learning. A sense of efficacy helps determine how much effort people will expend and how long they will persist in the face of obstacles. It follows then that principals well-trained in supervising cooperative learning will approach the supervision of cooperative learning with less hesitancy and anxiety and will also persist in

their efforts to help teachers improve use of cooperative learning teaching strategies.

Training design apparently made a difference. The study encompassed the five components of effective staff development (Joyce & Showers, 1983). The first four components--presentation of theory, demonstration, practice, and feedback--were used in the two workshops. The fifth component, peer coaching and practice, was implemented when the principals returned to their schools to practice their new skills. Although Joyce and Showers (1988) contend that the power of the effect size is greatest when all five components have been included in the training, it is not known what effect each of these components had on the findings in this study. The first four components of this study were under the control of the trainers, but the peer coaching, with the exception of the practice during the workshop, took place in the field. A future study might examine the impact of each of the various training components on principals' internalization of the skills needed for supervising teachers who use cooperative learning.

The CLSTD group showed a gradual gain in each area of effectiveness after each observation. Figures 4 through 11 (in chapter four) show that mean ratings of effectiveness increased with every observation cycle after the training (treatment) with the gain between the fourth and fifth observation cycles generally being the greatest. This leads one to believe that the use of the cooperative learning supervision model, with its training and development components, influences principals to learn new skills and to become more effective (Showers, 1984).

The findings of this study clearly support the use of this model for training principals to supervise teachers who use cooperative learning. The model appears to have potential for increasing principals' effectiveness in providing specific feedback to teachers about the three major parts of a cooperative lesson, providing lesson plan feedback, and knowledge and usage of cooperative learning concepts. The model also appears to increase principals' level of confidence and sense of efficacy in supervising teachers who use cooperative learning. This model provides a vehicle for doing something experts and researchers say is important in improving teaching.

Limitations

The following factors limited the scope of the study:

1. The sample size of the groups was small due to the limited number of principals who had completed the 30-hour foundation cooperative learning course. Thirteen principals in each group completed the study. Generalizing is difficult with such a restricted sample.
2. Measurement used in the study was based on self-perceptions of teachers and self-perceptions of principals.
3. Participants were volunteers, not randomly selected.
4. The training and development took place during the winter and spring as opposed to the beginning of the school year.

Recommendations for Further Research

1. By increasing the sample size in a replication effort, more variables could be examined such as entry skills, knowledge level of principals, and school size and school level of the supervised.
2. As teachers' level of confidence grows in using cooperative learning, it might be appropriate to use multi-assessment instruments, such as audio or video taping, to assess teacher growth.
3. Three full days of training would allow principals more time to internalize the process, observe and supervise teachers, and practice and discuss mutual concerns with other principals.
4. The training and development program should be implemented at the beginning of the school year. Offering the training in the fall would provide principals the opportunity to include the supervision training and development with their supervision cycle of teachers and provide them more time to practice the cooperative learning supervision techniques.
5. It is recommended another study be conducted using three groups: the CLSTD, with training comprised of the five staff development components including peer coaching; a second group, with training composed of four components (presentation of theory, modeling, practice, and feedback); and the third group, with no training.
6. It is recommended another study be designed to determine if the training or peer coaching made the difference in the findings.

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APPENDIX A.

SELECTED SAMPLES OF CORRESPONDENCE

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November 9, 1990

Dear Colleague:

As part of my doctoral program at Iowa State University, I am designing a study to examine the effects of a method of training principals to effectively supervise teachers in cooperative learning. I personally believe that specific feedback about utilization of cooperative learning in the classroom can help teachers improve its effectiveness. Cooperative learning is becoming more widely used by teachers everywhere. When supervisors are trained to analyze its unique data and lessons, teachers can be helped to improve their teaching.

You were recommended to me to be part of this project because of your commitment to improving instruction. Potential participants were recommended by either Drs. Jim Sweeney or Barb Licklider, professors at Iowa State University, or Dr. Linda Munger, trainer for cooperative learning. Your participation in this study will be mutually beneficial. Benefits of this training for you include:

- improving your competence and ability in specific techniques of data collection and lesson analysis for cooperative learning
- expanding your repertoire of skills for dealing with a successful instructional approach which adds to the body of knowledge in education
- and providing your teachers with specific feedback on their cooperative teaching strengths and potential areas for improvement

The information below will help you to understand the procedures for carrying out the study and explain your role in it.

A. **Participants and Activities.** The study will begin in December and end the last part of February. All participants in the study will be volunteers. Principals and teachers from 60 schools will take part. Due to the nature of the experimental research design, it is necessary to randomly assign participants to one of two groups, experimental and control.

To gather baseline information each supervisor will observe a teacher three times prior to the study and complete two surveys. Members of the experimental group will attend a one day in-service, held in Ames during January and conducted by Drs. Sweeney, Licklider, and Munger. By

means of videotape analysis, feedback sessions, and group work, participants will improve their data gathering techniques.

Following the initial in-service, supervisors will be asked to utilize the strategies while observing and conferencing about cooperative learning. Supervisors will be paired in coaching teams to implement strategies for supervision of cooperative learning. This will involve approximately one half day in each of the supervisors' buildings. They will be asked to conduct at least one further observation in their own building. A half day follow-up session in February will culminate with three further teacher observations and postconferences to complete the study.

Members of the control group will provide the baseline information and conduct teacher observations December through February. Participants from the control group schools will be offered the optional in-service training in March and April.

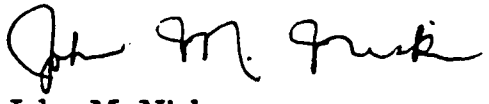
B. **Confidentiality and Anonymity**. This study involves gathering data and analyzing the cooperative learning lessons that teachers are presenting in their classrooms. All participating principals and teachers will be assigned a code number which will be kept confidential. A contact person will be asked to volunteer to collect and forward survey instruments from principals and teachers. All data-gathering instruments will be coded and sealed in an envelope prior to giving to the contact person in order to assure principal and teacher anonymity.

C. **Cost.** Schools will be asked to pay for travel costs to Ames to attend the training sessions. In addition, schools will be asked to pay $10 which will cover printing and duplication costs of your training manual. Refreshments and lunch will be provided for all participants.

I hope I have addressed the critical questions you may have concerning the study. Please let me hear from you within the next few days by completing the enclosed questionnaire and returning it to me in the self addressed, stamped envelope. Should you have any questions or concerns, call me at the ILEAD office (515-294-2917).

Thank you for your time in considering my request. I appreciate your interest and do hope you will be willing to participate in this important study.

Sincerely,



John M. Niska
Doctoral Candidate, Iowa State University

Cooperative Learning Study
Principal Response Questionnaire

Please complete and return in the enclosed envelope:

Name_____School_____

Address_____Telephone_____

City, State Zip_____

I. Check one response:

_____If chosen, I will participate in either the experimental or control group.
_____I cannot participate in the study at this time.

II. If you elect to participate, circle your preferences for the in-service session:

weekday Saturday

Mon Tues Wed Thurs Fri

III. If participating, please provide the following information:

1. Number of years in the principalship. Include time spent as an assistant if it has been part of your professional experience.

_____

2. Number of pupils enrolled in your school. _____

3. Current level of your principalship. Circle one.

elementary middle high school

4. Did you participate in the 30 hour Johnson and Johnson brown book cooperative learning training with your current staff? Circle response.

yes no

5. Approximate number of hours in supervisor or evaluator training during the last five years.

_____

Thank you for your cooperation.

Description of Data Collection and Lesson Analysis Study

I am presently conducting a study designed to examine the data collected during the observation of a cooperative learning lesson. The ultimate goal of the study is to gain information that will aid supervisors in the collection and analysis of data that will help teachers become even more effective as they use cooperative learning.

Your supervisor has agreed to participate in the study and is asking if you might be interested in participating. If you agree to participate, you will be asked to have several cooperative lessons observed and then take part in a post-observation conference after each lesson. Following the conference you will be asked to complete a survey instrument which should take no more than ten minutes.

The survey instrument will be seen and analyzed only by researchers and you will be guaranteed complete anonymity. To insure that the information you record on the survey instruments remains completely confidential, I am providing a self-addressed envelope in which you are to return materials to me after each conference.

Participation is completely voluntary. If you wish to participate, you need to only inform your supervisor. Thank you for your consideration. I am confident that those participating in the study will contribute much to assisting principals to be more effective in the supervision of cooperative learning. I look forward to your participation.

December 19, 1990

Dear Colleague:

Thank you for your willingness to participate in the research on improving the supervision of teachers using cooperative learning. As you know, cooperative learning is becoming more widely used by teachers everywhere. However, its unique structure creates a special problem for supervisors. You are not always able to use the method of data collection and lesson analysis you use for the traditional lesson to most effectively analyze a cooperative lesson. Thus this study is designed to provide special training to assist principals in the supervision of cooperative learning.

You have been randomly selected from a group of interested principals to participate in the Experimental Group. As part of the follow-up to the special training you receive in February, you will be paired with another principal in your district, known as a study principal, to do two joint observations. A complete description of your activities is provided in the **Procedure Sheet for the Experimental Group Principals** that is included with the packet accompanying this letter. This sheet, along with the **Procedure Sheet for Teachers,** will be helpful to you as you explain the study to faculty members when you are asking a teacher to participate.

I am asking you to observe one teacher six specified times and conduct a post-observation conference after each observation; a second teacher will be observed once in February by you and your study principal partner. Please present the enclosed description of the study to your staff and ask for volunteers who use cooperative learning and are interested in becoming more effective in its use. If more than two teachers volunteer, draw names to select the teacher participants and thank the others for volunteering. You will be asked to complete a short survey instrument both before and after the post-observation conference. The teacher observed the six times will also complete a survey instrument after each conference. Confidentiality and anonymity are guaranteed both principals and teachers. The data collected for this study will be aggregated and only the summary of the results will be provided to the study participants.

The date for your large group session with Drs. Jim Sweeney, Barb Licklider, and Linda Munger, of Iowa State University, has been set. The first workshop will be held on Thursday, February 7 from 8:30 A.M. until 3:30 at the Holiday

Inn Gateway Center in Ames. Please bring the materials in this packet with you to the large session. A follow up one half day session will be held in March.

If you have any questions regarding the study or procedure, please contact me during working hours at the ILEAD office at (515) 294-2917 or at home (515) 233-1718. I shall be in Michigan from December 23 until January 2 at (906)- 884-2689. Again, thank you for assisting me with the study. Your help will result in improved supervision of cooperative learning.

Sincerely,

John M. Niska
Research Associate
Iowa State University

Data Collection and Lesson Analysis of Cooperative Learning

Procedure Sheet for Experimental Group Principals

Purpose

The purpose of the study is to examine the effects of data collection and lesson analysis in the supervision of cooperative learning.

Content

This packet contains the following:

- Principal Letter,
- Description of the Study,
- Procedure Sheet for Principals,
- Procedure Sheet for Teachers,
- Principal Consent Form,
- Teacher Consent Form,
- Supervisor Attitude Survey,
- Supervisor Conference Effectiveness Inventory,
- Teacher Packet I for teacher who is evaluated six times,
- Teacher Packet II for teacher who is evaluated only once with study principal, and
- Two Self-Addressed Stamped Envelopes

Outline of Procedures

1. Meet with the teachers you supervise and explain the purposes and procedures of the study. Ask for two volunteers; one will be observed six times and the other will be observed one time by both you and an assigned study principal from your area who is also a member of the experimental group. Please encourage teachers who use cooperative learning and are interested in being more effective in the use of cooperative learning to volunteer. Be certain to confirm that all the information will remain confidential and anonymous.

2. Teacher participation in the study is voluntary. Among the volunteers, randomly select the two teachers to participate in the study. One will be observed by you a total of six times throughout the study and the second will be observed only once after the February training session by you and the other study principal from you geographic area. After volunteer participants have been drawn, thank all who volunteered for their interest.

3. Give the sealed teacher packet to the teacher who will be observed six times and after the teacher has had the opportunity to review its contents, confirm the teacher's willingness to participate in the study.

4. Conduct the observations of the teacher presenting cooperative learning lessons and arrange post-observation conferences. Observations are to be done the way you normally conduct them. One observation needs to be completed between the return to school after the new year and January 16 and and the second one between January 23 and February 4.

5. Prior to the post-conference, you are to complete the Supervisor Attitude Survey.. The survey instrument should take about ten minutes to complete.

6. At the beginning of the conference, review the Teacher Consent Form. Please emphasize that the participation is voluntary. Review with the teacher the study procedures and purposes and answer any questions that he/she might have.

7. Conduct the conference and have the teacher sign the Teacher Consent Form.

8. Remind the teacher to complete the appropriate survey instrument in the teacher's packet and mail it together with the Teacher Consent Form to the researcher in the stamped envelope provided in the Principal's Packet.

9. Sign the Supervisor Consent Form and complete the Supervisor Conference Effectiveness Inventory.

10. Return the Supervisor Attitude Survey, Supervisor Consent Form and Supervisor Conference Effectiveness Inventory to the researcher in a self-addressed stamped envelope within two days.

11. Attend the workshop on February 7 which will be held in the Harvest Room at the Holiday Inn Gateway Center from 8:30 to 3:30. Bring the enclosed printed materials and a ten dollar check made out to John Niska to cover the cost of printed materials. Lunch will be provided

12. At the workshop you will receive a packet of materials and instructions for completing the second part of the study.

Your time and effort are greatly appreciated!

Principal Consent Form for the Experimental Group

Purpose

The purpose of this study is to examine the effects of data collection and lesson analysis in the supervision of cooperative learning.

Procedures

The principal will be asked to:

- observe one teacher during a cooperative learning lesson six specified times,
- complete a survey instrument prior to each observation,
- conduct a post-observation conference after each observation,
- complete another survey instrument after each conference ,
- attend two training sessions in Ames, and
- work with an assigned study principal in doing two observations after the February workshop

Before each conference the principal will be asked to complete the **Supervisor Attitude Survey**. Following the conference the principal will complete the **Supervisor Conference Effectiveness Survey**. These instruments will be sent directly to the researcher upon completion.

Confidentiality and Anonymity

This study involves the completion of survey instruments. To assure confidentiality, all participating principals and teachers will be assigned confidential code numbers for all data gathered. All instruments will be coded, sealed in the enclosed self-addressed stamped envelopes, and mailed to the researcher to assure participant anonymity.

I, _____, have read and understand the points above. I agree to complete the survey instruments and understand the materials will be coded for research purposes only. I understand that any questions I have regarding this study will be answered by the researcher. I also understand that I may choose not to participate in this study at any time. I further understand that my identity will not be revealed in any publication, document, computer data storage, or in any other way which relates to this research.

Signed _____

Date _____

John M. Niska, Research Associate

December 19, 1990

Dear Colleague:

Thank you for your willingness to participate in the research to improve the supervision of teachers using cooperative learning. As you know, cooperative learning is becoming more widely used by teachers everywhere. However, its unique structure creates a special problem for supervisors. You are not always able to use the method of data collection and lesson analysis you use for the traditional lesson to most effectively analyze a cooperative lesson. Thus this study is designed to provide special training to assist you in the supervision of cooperative learning.

You have been randomly selected from interested principals to participate in the Control Group. Description of your activities is provided in the **Procedure Sheet for Control Group Principals** that is included with the packet accompanying this letter. This sheet, along with the **Procedure Sheet for Teachers** , will also be helpful to you as you explain the study to faculty members when you are asking for a teacher to participate.

I am asking you to observe one teacher six specified times and conduct a post-observation conference after each observation. Please present the enclosed description of the study to your staff and ask for volunteers who use cooperative learning and are interested in becoming more effective in its use. If more than one teacher volunteers, draw a name to select the teacher participant and thank the others for volunteering. You will be asked to complete a short survey instrument both before and after the post-observation conference. The teacher will also complete a survey instrument, one after each conference. Confidentiality and anonymity are guaranteed both you and the teacher. The data collected for this study will be aggregated and only the summary of the results will be provided to the study participants.

If you have any questions regarding the study or procedure, please contact me during working hours at the ILEAD office at (515) 294-2917 or at home (515) 233-1718. I shall be in Michigan from December 23 until January 2 at (906)- 884-2689. Again, thank you for assisting me with the study. Your help will result in improved supervision of cooperative learning.

Sincerely,

John M. Niska, Research Associate
Iowa State University

Data Collection and Lesson Analysis of Cooperative Learning

Procedure Sheet for Control Group Principals

Purpose

The purpose of the study is to examine the effects of data collection and lesson analysis in the supervision of cooperative learning.

Content

This packet contains the following:

- Principal Letter,
- Description of the Study,
- Procedure Sheet for Principals,
- Procedure Sheet for Teachers,
- Principal Consent Form,
- Teacher Consent Form,
- Supervisor Attitude Survey,
- Supervisor Conference Effectiveness Inventory,
- Teacher Packet, and
- Two Self-Addressed Stamped Envelopes

Outline of Procedures

1. Meet with the teachers you supervise and explain the purposes and procedures of the study. Ask for one volunteer who will be observed a total of six times throughout the study. Please encourage teachers to volunteer who use cooperative learning and are interested in being more effective in the use of cooperative learning. Be certain to confirm that all the information will remain confidential and anonymous.

2. Teacher participation in the study is voluntary. Among the volunteers, randomly select a teacher to participate in the study. He/she will be observed by you a total of six times. After volunteer participant has been drawn, thank all who volunteered for their interest.

3. Give the sealed teacher packet to the teacher participant and after the teacher has had the opportunity to review its contents, confirm the teacher's willingness to participate in the study.

4. Conduct the observations of the teacher presenting cooperative learning lessons and arrange post-observation conferences. Observations are to be done the way you normally conduct them. One observation needs to be completed

between the return of school after the new year and January 16 and and the second one between January 23 and February 4.

5. Prior to the post-conference, you are to complete the Supervisor Attitude Survey.. The survey instrument should take about ten minutes to complete and perceptions and results should not be shared with anyone.

6. At the beginning of the conference, review the Teacher Consent Form. Please emphasize that the participation is voluntary. Review with the teacher the study procedures and purposes and answer any questions that he/she might have.

7. Conduct the conference and have the teacher sign the Teacher Consent Form.

8. Remind the teacher to complete the appropriate survey instrument in the teacher's packet and mail it together with the Teacher Consent Form to the researcher in the stamped envelope provided in the Principal's Packet.

9. Sign the Supervisor Consent Form and complete the Supervisor Conference Effectiveness Inventory.

10. Return the Supervisor Attitude Survey, Supervisor Consent Form and Supervisor Conference Effectiveness Inventory to the researcher in a self-addressed stamped envelope within two days.

11. You will receive a packet of materials and instructions for completing the second part of the study the first week of February.

Your time and effort are greatly appreciated!

Principal Consent Form for the Control Group

Purpose

The purpose of this study is to examine the effects of data collection and lesson analysis in the supervision of cooperative learning.

Procedures

The principal will be asked to:

- observe one teacher during a cooperative learning lesson six times,
- complete a survey instrument prior to each observation,
- conduct a post-observation conference after each observation, and
- complete another survey instrument after each conference.

Before each conference the principal will be asked to complete the **Supervisor Attitude Survey**. Following the conference the principal will complete the **Supervisor Conference Effectiveness Survey**. These instruments will be sent directly to the researcher upon completion.

Confidentiality and Anonymity

This study involves the completion of survey instruments. To assure confidentiality, all participating principals and teachers will be assigned confidential code numbers for all data gathered. All instruments will be coded, sealed in the enclosed self-addressed stamped envelopes and mailed to the researcher to assure participant anonymity.

I, _____, have read and understand the points above. I agree to complete the survey instruments and understand the materials will be coded for research purposes only. I understand that any questions I have regarding this study will be answered by the researcher. I also understand that I may choose not to participate in this study at any time. I further understand that my identity will not be revealed in any publication, document, computer data storage, or in any other way which relates to this research.

Signed _____

Date _____

John M. Niska, Research Associate

December 19, 1990

Dear Colleague:

I am presently conducting a study designed to examine the data collected during the observation of a cooperative learning lesson. The ultimate goal of the study is to gain information that will aid supervisors in the collection and analysis of data that will help teachers become even more effective as they use cooperative learning. Soon your supervisor will be observing you teaching a cooperative learning lesson and visiting with you afterward to provide feedback on what he/she observed.

Your supervisor has agreed to participate in the study and suggested you might be interested in participating. If you agree to participate, you will be asked to have six cooperative lessons observed and then take part in a post-observation conference.after each lesson. Following the conference you will be asked to complete a survey instrument which should take no more than ten minutes.

The survey instrument will be seen and analyzed only by researchers and you will be guaranteed complete.anonymity. To insure that the information you record on the survey instruments remains completely confidential, I am providing a self-addressed envelope in which you are to return materials to me after each conference.

Participation is completely voluntary. If you wish to participate, you need to only inform your supervisor. If you have any questions about the study or procedures, feel free to contact me. I can be reached during the day at the ILEAD office at Iowa State at (515) 294-2917 or evenings at (515) 233-1718.

Thank you for your consideration. I am confident that those participating in the study will contribute much to assisting principals to be more effective in the supervision of cooperative learning. I look forward to your participation.

Sincerely,

John M. Niska
Researcher
Iowa State University

Data Gathering and Lesson Analysis of Cooperative Learning Procedure Sheet for Teachers

Purpose

The purpose of the study is to examine the effects of data collection and lesson analysis in the supervision of cooperative learning.

Content

This packet contains the following:

- Teacher Letter,
- Procedure Sheet for Teachers,
- Teacher Evaluation Inventory,
- Teacher Consent Form, and
- Two Stamped self-addressed envelopes.

Outline of Procedures

1. Your principal will observe six of your cooperative learning lessons in his/her normal way and prepare to conduct a post-observation conference; one will be before January 16 and the other between January 23 and February 3. The others will be later.

2. Immediately prior to the beginning of each conference, your principal will review the study purposes and procedures with you and will answer any questions you might have.

3. At the conclusion of the conference, you may sign the Teacher Consent Form indicating your further participation.

4. Please complete the Teacher Evaluation Inventory survey instrument, as soon as possible, not sharing the questions or your perceptions with anyone.

5. Please return the Teacher Evaluation Inventory and Teacher Consent Form in an enclosed self-addressed stamped to the researcher within two days.

6. You will receive another packet the first part of February.

Your time and effort are greatly appreciated. Thank you so much for your assistance!

Teacher Consent Form

Purpose

The purpose of the study is to examine the effects of data collecting and lesson analysis in the supervision of cooperative learning.

Procedures

The teacher will be asked to:

- be observed by the principal six times during the teaching of cooperative lessons,
- participate in a post-observation conference with the principal, and
- complete one survey instrument after each conference.

This survey instrument labeled **Teacher Evaluation Inventory** will be completed and mailed along with this **Teacher Consent Form** directly it to the researcher.

Confidentiality and Anonymity

This study involves the completion of survey instruments. To assure confidentiality, all participating and teachers will be assigned confidential code numbers to use for data gathered. All instruments will be coded, sealed in the enclosed stamped self-addressed envelope,and mailed directly to the researcher to assure participant anonymity.

I, _____, have read and understand the points above. I agree to complete the survey instruments and understand the materials will be coded for research purposes only. I understand that any questions I have regarding this study will be answered by the researcher. I also understand that I may choose not to participate in this study at any time. I further understand that my identity will not revealed in any publication, document, computer data storage, or in any other way which relates to this research.

Signed _____

Date _____

John M. Niska, Research Associate

N225 Lagomarcino
Iowa State University
Ames, IA 50011
February 16, 1991

Dear Colleague:

I want to take this opportunity to thank you for your participation in my study on the supervision of cooperative learning. Completed surveys for the first portion of the study have been received. Now, you are ready to begin the second and final portion.

There has been a slight change in the design of the study. Instead of four observations, I am asking your supervisor to do just three observations of you teaching a cooperative lesson. Then, as was done in the first portion of the study, you are asked to take part in a post-observation conference and complete the teacher survey.

I am requesting that your supervisor have these three observations completed by March 30. I do appreciate your involvement in this study. Please find enclosed three copies of the **Teacher Consent Form**, three copies of the **Teacher Evaluation Inventory and Profile**, and three self-addressed, stamped envelopes.

Once observations and conferences have been completed and all surveys mailed, your participation in the study is finished. Results will then be analyzed and you will receive a summary of the findings. I am confident that these findings will contribute greatly to assisting principals to be more effective in the supervision of cooperative lessons. If you have any questions or concerns, feel free to call me at the I-LEAD office at (515) 294-2917.

Sincerely yours,

John M. Niska
Graduate Student

N225 Lagomarcino
Iowa State University
Ames, IA 50011
March 4, 1991

Dear Colleague:

I want to take this opportunity to thank you for your participation in my study on the supervision of cooperative learning. Completed surveys for the first portion of the study have been received. Now, you are ready to begin the second and final portion.

There has been a slight change in the design of the study. Instead of four observations, I am asking your supervisor to do just three observations of you teaching a cooperative lesson. Then, as was done in the first portion of the study, you are asked to take part in a post-observation conference and complete the teacher survey.

I am requesting that your supervisor have these three observations completed by April 7. I do appreciate your involvement in this study. Please find enclosed three copies of the **Teacher Consent Form**, three copies of the **Teacher Evaluation Inventory and Profile**, and three self-addressed, stamped envelopes.

Once observations and conferences have been completed and all surveys mailed, your participation in the study is finished. Results will then be analyzed and you will receive a summary of the findings. I am confident that these findings will contribute greatly to assisting principals to be more effective in the supervision of cooperative lessons. If you have any questions or concerns, feel free to call me at the I-LEAD office at (515) 294-2917.

Sincerely yours,

John M. Niska
Graduate Student

N225 Lagomarcino Hall
Iowa State University
Ames, IA 50011
April 2, 1991

Dear Experimental Principals:

Hope you all had a relaxing and enjoyable spring vacation and are re-energized for a productive school finale. Thank you for your participation in the second workshop and for your continuation in the study. Your excitement and reflection with the new supervision learning is certainly adding a positive note to my study.

Completed surveys are returning at a rapid rate and I am hopeful you will be able to complete the three observations before the end of April. After all surveys have been returned, I shall be contacting you to make arrangements for a short structured interview. This telephone interview will focus on what you have learned and any suggestions you might have to better the training.

We are still thinking of holding a one half day workshop to serve as a follow-up session. Dr. Barb Licklider will conduct it and she has indicated the agenda will include the use of pre and post-conferencing in the observation cycle plus a discussion of any concerns/questions you have regarding what you have learned in this training. The session will not be part of the study itself, and your district will need to cover your travel and lunch expenses.

In order that we are able to determine interest in this workshop, please complete the attached survey and return it with your next completed study survey. Once again, your participation has been invaluable. Call me at the I-LEAD office (phone - 515-294-2917), if you have any questions or concerns.

Sincerely,

John M. Niska

APPENDIX B.

COOPERATIVE LEARNING SUPERVISION INSTRUCTIONAL PLANS

COOPERATIVE LEARNING: SUPERVISION TRAINING - SESSION I

OBJECTIVE	ACTIVITY	TIME
I. Participants will know or be able to understand terminology and major concepts of the brown book training--Cooperation in the Classroom a. to identify the 13 components of a cooperative lesson b. to identify the major parts of a cooperative lesson	Ia. Cooperative lesson	45 min.
II. Participants will review a lesson plan and determine if able to collect and analyze data about the selection of the lesson.	IIa. Discussion/Handout on key components	30 min.
A. Input 1. relates to students' past learning 2. assess appropriateness of material 3. provide rationale/importance 4. description of lesson with clear measurable objectives 5. clear description of procedures 6. achievable cooperatively		
B. Modeling	IIb. Analyze lesson plan from Activity a. Find evidence in Key Concepts - Selection of Lesson Section b. TTYP to check	

C. Practice	IIc. Analyze Lesson Plan for Video 1 a. Find evidence from Selection of Lesson Section b. TTYP to check c. Large group checking for understanding (random call on)	

Questions to address in large group discussion

- How does the academic and social focus of this lesson relate to the learner's past learning?
- What rationale was provided for the importance of the learning?
- What were the academic and social objectives of the lesson? How were they measured?
- How did the description of the procedures affect the flow of the lesson?
- Why was (or was not) the instructional strategy appropriate to this lesson?

III. Participants will observe a lesson and determine if able to collect and analyze data about making organizational decisions in a lesson plan.	IIIa. Discussion/handout on key component	20 min.

A. Input

1. to select a lesson
2. determine group size
3. assign to groups
4. arrange room
5. select needed materials

B. Modeling	IIb. Analyze Organizational Decisions - Activity I a. Find evidence in Organizational Decisions Section b. TTYP to check
C. Practice	IIc. Input Analyze lesson plan for Video 1 a. Find evidence Key Concepts - Organizational Decisions Section b. TTYP c. large group checking for understanding (random call on)

Questions to ask in large group discussion?

- What was the size of the group? Was it appropriate? Why or why not?
- How were students assigned to the group and how did their assignment affect group functioning?
- How did the room arrangement help or hinder the functioning of the group?
- How did the materials help or hinder the completion of the task?
- Appraise the overall appropriateness of the organizational decisions?

IV. The participants will observe a lesson and determine if able to collect and analyze data concerning setting the lesson.	IVa. Discussion/Handout on key components	80 min.

A. Input
   1. explain the academic task
      a. explanation of objective for lesson
      b. instructions for accomplishing it
   2. structure positive goal interdependence
   3. structure individual accountability
   4. structure intergroup cooperation
   5. explain criteria for success
   6. specify desired social behaviors

B. Modeling

IVB.
   1. Analyze Lesson Plan for Setting Lesson Part for Activity 1
      a. Individual writes evidence
      b. TTYP
   2. Analyze script of teacher presentation Activity 1 (Give each student copy of scripting done during presentation of the activity)
      a. Individual writes key words/phrases
      b. TTYP
      c. Large group checking

C. Practice	IVC. 1. Analyze lesson plan Video 1 (Sci.9) a. individual writes evidence b. TTYP c. Large group checking 2. Script first part Video 1 3. Analyze script Video 1 a. Find evidence b. TTYP c. Large group checking	

Questions to ask in large group discussion

- How were the means and outcomes for the academic task defined?
- How were the needs and application of the social skill(s) defined?
- How did the linkage among the students affect the means and outcomes?
- How was individual accountability structured into the lesson?
- What was the criteria for success?
- Was the time limit appropriate? Why or why not?
- What roles were assigned? Were roles well defined? Was the use of roles appropriate?

V. Participants will observe a lesson and determine if able to collect key components and analyze data concerning group processing in a lesson.	Va. Discussion/Handout of key components	60 min.

A. Input
   1. Evaluating and celebrating learning
   2. Processing group collaboration
      a. by teacher
      b. by student observer
      c. by each individual student
   3. Questioning by teacher

B. Modeling

Vb. Modeling
   1. Analyze lesson plan Activity 1
      a. Individual writes evidence
      b. TTYP
   2. Analyze script of teacher presentation for Activity 1
      a. Individual write key words/phrases
      b. TTYP
      c. Large group checking

C. Practice

Vc. Practice

1. Analyze lesson plan Video 1 (Individual writes evidence)
b. TTYP
c. Large group checking
2. Script processing part Video 1
3. Analyze script from Video 1
a. Individual writes evidence
b. TTYP
c. Large group checking

Questions to address in large group discussion:

- How were processing questions related to both academic and social goals?
- What sources provided feedback? Were they appropriate? What was the order?
- Describe the questions used by the teacher How did the questioning process contribute to the students' thinking about their social skill performance?
- Indicate the goal setting procedure used for planning the next lesson.

VI. Participants will observe a complete lesson (except the monitoring portion) and determine if able to collect and analyze data concerning the four parts: selecting the lesson, making organizational decisions, setting the lesson, and evaluating and processing the lesson.	VI. Practice Activity 1. Individual analyzes Video 2 a. TTYP b. Large group checking 2. Script lesson 3. Individual analyzes the script 4. TTYP 5. Large group discussion	55 min.

COOPERATIVE LEARNING
SUPERVISION TRAINING - SESSION II

OUTLINE FOR DATA GATHERING AND LESSON ANALYSIS IN COOPERATIVE LEARNING

OBJECTIVE	ACTIVITY	TIME
I. Participants will review and understand main parts of a cooperative lesson (those which were covered in Training I) - selection of a lesson, making organizational decisions, and setting a lesson. Special emphasis on nine types of positive interdependence.	Ia. Worksheet activity	1 hr.
A. Input 1. appropriateness of lesson selection 2. making organizational decisions 3. discuss setting of a lesson 4. positive interdependence		
II. Participants will observe a lesson and determine if able to collect and analyze data concerning monitoring of the lesson.	IIa. Discussion/Handout on key components	1 1/2 hr.

A. Input
   1. Teacher behavior
      a. Type of plan used
      b. Guide for monitoring
      c. Type of interaction
      d. Caliber of teacher responses
   2. Student behavior
      a. Location/position
      b. Direction

B. Modeling

IIb. Analyze lesson plan from Activity 1
   a. Find evidence in Key Monitoring Section
   b. TTYP to check

C. Practice

IIc. Analyze scripting notes video 2
   a. Individual checks monitoring system
   b. TTYP
   c. Large group checking for understanding (random call on)

Questions to address in large group discussion
- What type of observation was used?
- What are other types? When are they used?
- Appraise actions teacher used when monitoring.
- Did teacher intervene, interact, or reinforce? Elaborate.
- Was a plan apparent? Support your answer.

III. Participants will observe a lesson and determine if able to collect and analyze data concerning group processing in a lesson.	IIIa. Discussion/handout on key components	1 1/2 hr.

A. Input
   1. Evaluating and celebrating learning
   2. Processing group collaboration
      a. by teacher
      b. by student observer
      c. by each individual student
   3. Questioning by teacher

B. Modeling

IIIb. Modeling Activity
   1. Analyze Organizational Decisions - Video 1
      a. Individual writes down evidence
      b. TTYP
   2. Analyze script teacher presentation Activity 1
      a. Individual writes down key words phrases
      b.TTYP
      c. Large group checking

C. Practice	IIIc. Practice Activity 1. Analyze lesson plan for video 2 a. Individual writes down evidence b. TTYP c. Large group checking 2. Script processing part Video 2 3. Analyze script from Video 2 a. Individual write down evidence b. TTYP c. Large group checking

---

Questions to ask in large group discussion?

- How were processing questions related to both academic and social goals?
- What sources provided feedback? Were they appropriate? What was the order?
- Describe the questions used by the teacher. How did the questioning process contribute to the students' thinking about their social skill performance?
- Indicate the goal setting procedure used for planning the next lesson.

IV. The participants will observe a lesson and determine if able to collect and analyze data concerning the four parts: making organizational decisions, setting the lesson, monitoring, evaluating and processing.	IVa. Individual analyzes Video 3	1 hr.

A. Practice	IVA. Script Video 3 a. Individual writes down evidence b. Analyzes scripting c. TTYP d. Large group checking

APPENDIX C.

TRAINING SESSION AGENDA

COOPERATIVE LEARNING: SUPERVISION TRAINING

The Cooperative Learning: Supervision Training is designed to teach data collection and lesson analysis skills for effective supervision of teachers using cooperative learning.

Goals

1. To develop data collection and lesson analysis skills in a cooperative setting.

2. To provide pertinent information which will help supervisors present specific feedback to teachers of cooperative learning.

Program Content

The content of the supervision training is organized around supervising the cooperative learning model of Johnson and Johnson. This model employs five major steps for organizing and teaching a cooperative lesson. The first four steps together with a review of cooperative learning terminology serve as organizers for this supervision training program.

Components of Supervision Training

February 7 8:30 - 3:30 Holiday Gateway	• Reviewing of cooperative learn terminology • Selecting a cooperative Ames lesson • Making proper organizational decisions • Setting the cooperative lesson • Processing the Lesson
During February	• Practicing with Principal Partner
March 4 8:30 - 3:30 Ames	• Monitoring a Lesson

SESSION I - FEBRUARY 7, 1991

8:30 - 8:45	• Introductions • Goals for Training • Survey: How Does Your Teacher Use Cooperative Learning
8:45 - 9:30	• Cooperative Terminology Review
9:30 -10:00	• Lesson Plan Survey • Selection of a Lesson
10:00-10:15	• Break
10:15-10:20	• Teaming with Principal Partner
10:20-11:00	• Making Organizational Decisions
11:00-12:00	• Setting the Lesson
12:00-1:00	• Lunch in Lobby Bar and Grill
1:00 - 2:00	• Processing
2:00 - 2:15	• Break
2:15 - 3:20	• Practicing Complete Lesson
3:20 - 3:30	• Wrap Up

SESSION II - MARCH 4, 1991

9:00	• Goals for Session II
9:10	• Review of Session I
9:45	• Monitoring the Lesson
10:30	• Break
10:45	• Continuation of Monitoring Portion
11:15	• Processing the Lesson
12:00	• Lunch in the Regency Room
1:00	• Continuation of Processing Portion
1:30	• Practicing Complete Lesson
2:30	• Break
3:45	• Wrap Up • Survey Completion

APPENDIX D.

TRAINING MATERIALS

COOPERATIVE LESSON WORKSHEET

Grade level ____ Subject Area: _____ Date 2-7-1991

Step 1. Select a Lesson

a. Lesson summary - Review of the terminology and concepts of the brown book training - Cooperation in the Classroom

b. Instructional objectives - To identify the components of an effective cooperative lesson

Step 2. Make decisions

a. Group Size - 4

b. Assignment to groups - coded to seat in teams of two; use tent with four names (Instructor assigned)

c. Room arrangement - eye-to-eye, seated around round tables, in view of instructor

d. Assigning roles - recorder, observer - tally who contributes examples in social skills

Step 3. Set the Lesson. State in language your students understand:

a. Task - I would like you to vision observing a classroom where cooperative learning was being used effectively for an appropriate lesson. Each component under three main headings - Organizational Decisions, Setting the Lesson, and Monitoring and Processing need specific examples listed.

b. Positive interdependence - learning goal of identifying all the components with at least two good examples, i.e., shared materials (one sheet of paper and pencil), role of recorder, environmental, one answer from the group, everyone must agree, one person will be randomly called on to give an answer

c. Individual accountability - random selectôn, able to explain group's answer and complete an individual worksheet listing the main components

d. Criteria for success - Academic task - At least two examples written for each of the components of organizational decisions, setting the lesson, and monitoring and processing; Social skills - each person becoming an active learner in the activity (each person contributes at least two examples overall)

e. Specific behaviors expected - social skills to be practiced - use of names (three times) and encourage participation (two times)

Step 4. Monitor and Process

a. Evidence of expected behaviors (appropriate actions) - use of names and encourage participation

b. Observation form: tally

Observer(s): student

c. Plans for processing (feedback) - teacher feedback in large group, small group discussion; Analysis (questions to be discussed) - What did you contribute to help the group? What did someone in your group do or say that helped to clarify one of the components for you? Goal setting - What will your group need to do better next time?

Step 5. Evaluate Outcomes (teacher fills out after large group)

a. Task achievement:

b. Group functioning:

Notes on individuals:

Suggestions for next time:

ROLE OF THE TEACHER

I. Appropriate lesson

(no examples here)

II, Organizational Decisions

- Group Size
- Assignment of students to groups
- Room arrangement
- Role assignments
- Materials

III. Setting the Lesson

- Academic task
- Positive interdependence
- Individual accountability
- Criteria for success
- Expected behaviors (social skills)

IV. Monitoring and processing

- Monitoring (collecting the data)
- Processing and feedback

KEY CONCEPTS - SELECTION OF A LESSON

1. RELATES TO STUDENTS' PAST LEARNING	a. Examine students' thinking abilities and skill level b. Identify previous student experience c. Analyze/classify student current social skills d. Match learner and content to produce best results
2. APPROPRIATENESS MATERIALS	a. Check on instructional level of OF material b. Analyze content in relation to background knowledge c. Adjust to accommodate for student differences
3. PROVIDES RATIONALE/ IMPORTANCE	a. Discuss purpose of lesson b. State how fits into unit being studied c. State why important to student
4. DESCRIPTION OF LESSON WITH CLEAR, MEASURABLE OBJECTIVES	a. Determine outcome of lesson b. State lesson objectives c. State in measurable terms
5. CLEAR DESCRIPTION OF PROCEDURES	a. Outline major points b. Clarify procedures c. Determine what experience will precede group work d. Structure curriculum into unit lesson

6. ACHIEVABLE COOPERATIVELY	a. Examine concept to see if can be done cooperatively b. If yes, establish shared objectives and activities

KEY CONCEPTS - MAKING ORGANIZATIONAL DECISIONS

1. GROUP SIZE

How many students to a group?

a. 2-5 students
b. 2-3 is best number

2. ASSIGNMENTS TO GROUPS

How are groups determined?

a. random
b. teacher determined for specific purpose
c. base groups

3. ROOM ARRANGEMENTS

How effective is the room arrangement?

a. minimal movement and time for transition
b. eye to eye, knee to knee
c. adequate space between group

4. MATERIALS NEEDED

What factors need to be considered when selecting materials for the lesson?

a. appropriate to lesson
b. meet needs of all students
c. easily accessible

5. ROLE ASSIGNMENTS

What are necessary considerations when making role assignments?

a. appropriate use of roles
b. roles well defined
c. assignment proper for successful application

KEY CONCEPTS - SETTING THE LESSON

1. EXPLAIN ACADEMIC TASK

What are students expected to do in their groups and how are they going to accomplish it?
   a. objective for lesson
   b. instructions for accomplishing it

2. STRUCTURE POSITIVE INTERDEPENDENCE

What is the purpose of the students working together? What is the linkage (glue) used for the students to work together?
   a. necessary to accomplish academic task
   b. necessary to accomplish social task
   c. could be these types:
      1. mutual **goals** and/or giving joint **rewards**
      2. means, i.e., **resources, tasks, defined roles**
      3. **environmental** interdependence
      4. **identity** interdependence
      5. **fantasy** interdependence
      6. **outside enemy** interdependence

3. STRUCTURE INDIVIDUAL ACCOUNTABILITY

How are the students accountable for what they learn?
   a. each member must do work in group
   b. explain how it will be determined what each student has learned

4. EXPLAIN CRITERIA FOR SUCCESS

How should student work be evaluated? What criterion was established for acceptable work?
   a. academic, clear, measurable
      1. use same criterion for all group members
      2. use different criterion according to individual ability
   b. social, clear, measurable

5. SPECIFY SOCIAL SKILLS

What social skills help students function effectively in the group?

a. accomplish academic task successfully
b. build and maintain constructive relationship among group members

NINE KINDS OF POSITIVE INTERDEPENDENCE

LEARNING GOAL	• Perception all group members can achieve goals if and only all group members attain their goals. This is included in every lesson.
OUTSIDE ENEMY	• Groups are placed in competition with each other. This type is not used often.
FANTASY	• A task is given that requires members to imagine they are in a life or death situation and must collaborate to survive. This is also not used often.
REWARD	• Each group member receives a reward for completing the assignment.
RESOURCE	• Each member has only a portion of the information, resources, or materials necessary for task to be completed. This is usually used in all lessons.
TASK	• Division of labor created so the actions of one group member have to be completed if the next member is to complete his/her responsibility.
ROLE	• Each member is assigned complimentary and interconnected roles that specify responsibilities that group needs to accomplish a joint task.
IDENTITY	• A mutual identity is established through a name, flag, motto, or song.
ENVIRONMENTAL	• Group members are bound together by the physical environment in some way. This type is included in every lesson.

POSITIVE INTERDEPENDENCE QUESTIONS

1. LEARNING GOAL	• Do students know what they are supposed to do?
2. OUTSIDE ENEMY	• How is competition among groups structured?
3. FANTASY	• What is the simulation activity?
4. REWARD/ CELEBRATION	• What is given for completing the assignment?
5. RESOURCE	• What is needed for the task to be completed?
6. TASK	• What is the set order of action needed to complete the assignment?
7. ROLE	• What responsibilities are assigned to complete the assignment?
8. IDENTITY	• How does the group feel connected or related to each other?
9. ENVIRONMENTAL	• How are group members positioned?

KEY CONCEPTS - MONITORING

TEACHER BEHAVIOR

- Is teacher using a plan for monitoring and collecting data? What kind of plan?
  - formal observation
  - anecdotal comments
  - informal observation
  - no observation

- Does teacher know what to do to monitor?

- Is a guide for monitoring used (for example: Johnson and Johnson' three rounds)?
  - Round 1 - check all members are working together
  - Round 2 - check how well group is doing
  - Round 3 - formally observe, give feedback, and then process

- Does teacher
  intervene?
  interact?
  reinforce?

- Does teacher spend equal time with each group?
- If not, what is the reason for it?

- Are teacher responses
  appropriate?
  timely?
  based on common sense?
  helpful to each group?

STUDENT BEHAVIOR

What is the

location/position?
- are students staying with group?
- are students huddling over group?

direction?
- do students know what to do?
- are they doing it?
- do students share materials?
- do students drill each other?

noise level?

KEY CONCEPTS - MONITORING

COMMON PROBLEM BEHAVIORS	SUGGESTED INTERDEPENDENCE STRATEGIES
PASSIVE UNINVOLVEMENT (PI) • turning away from group • not participating • not paying attention • saying little • showing no enthusiasm • not bringing materials	• jigsaw materials so that each has **resources** others need • divide up **roles** and assign passive student essential one • **reward** group based on average performance
ACTIVE UNINVOLVEMENT (AI) • talking about all but task • leaving group without permission • attempt to sabotage group work	• structure **task** so all members must work for group to succeed • give **reward** student finds attractive
INDEPENDENCE (I) • uninvolved with group • doing work alone	• jigsaw materials so student can not work without others **resources** • limit **resources** in group
TAKING CHARGE OF GROUP (TCG) • doing all work • refusing to let others help • ordering others around • bullying group members	• jigsaw **resources** so task can not be completed with encouraging others and listening to others contributions • assign **roles** so other group members have most powerful roles • **reward** group on basis of the lowest two scores of group members

COOPERATIVE LEARNIN[161] ONITORING CODE SHEET

Please use the code for the teacher and students you observe. Student codes may be listed by either number or abbreviation, whichever is most convenient for you.

CODES FOR TEACHER BEHAVIORS

Uses observation sheet	
writes anecdotal comments	AC
informal observation	IO
Circulates to observe students	CIR
Provides extension for groups that finish quickly	PEX
Interaction with groups	
questions	Q
clarifies	CL
offers feedback	F
Intervention with groups	
stops inappropriate behavior	SIB
gives specific directions	GD
answers student initiated questions	ASQ
Reinforcement given	
verbal comments	VC
body language - smile, nod	SM, ND
close contact with group	CC

CODES FOR POSSIBLE STUDENT BEHAVIORS

1. Students staying with group	STG
2. All members participate	MPR
3. All have materials	HAM
4. Work with all in group	WAG
5. All involved with decisions	AID
6. Use social skills	USS
7. Students talk about task	STT
8. Materials are shared	MAS
9. Answers are shared	ASH
10. Students drill each other	STD
11. Others watch as students write	WSW
12. Students huddle	SHU
13. Students know what to do	KWD
14. Noise level is appropriate	NLA
15. Students are not participating	SNP
16. Students are not paying attention	SNA
17. Students just talk	SJT
18. Each person is writing	EPW
19. No one checks to see if others have learned materials	NCL
20. Students protect answers	SPA
21. Student says little or nothing	SSL

DATA RECORDING MAP

Teacher_____Lesson_____Date_____

Instructions:

- Draw a map of groups.
- Leave space under each for codes and time spent with each group.
- Select from code sheet and tally as appropriate.

Uses observation sheet

____Yes

____No

DATA RECORDING SHEET

Teacher_____

TIME	SELECTIVE SCRIPTING	COMMENTS

DATA RECORDING SHEET

Teacher_____

TIME	SELECTIVE SCRIPTING	COMMENTS

KEY CONCEPTS - EVALUATING AND PROCESSING

1. EVALUATING AND CELEBRATING LEARNING

Teacher:
a. sets academic task
b. shares it with students
c. assess how well students learned concepts and information
d. share findings with class

2. PROCESSING GROUP COLLABORATION

By Teacher:
a. decides what social skills to emphasize and observe
b. appoints observer (optional), selects proper observation form, and explains observation
c. gives class feedback
d. has students share incidents which occur in groups and how they were solved
e. uses verbal or written analysis of group functioning

By Student Observer (either small group or whole class)
a. records behavior frequencies on students when group functioning
b. gives feedback on how effectively group worked together

By Individual Student (either small group or whole class)
- a. explains how group functioned and could improve
- b. states what he/she contributed and could improve

3. QUESTIONING

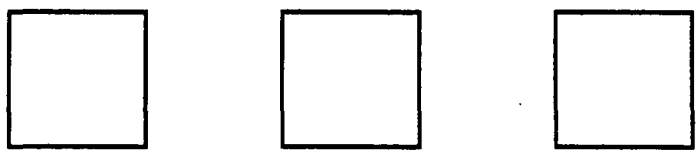
Teacher
- a. relates to both academic and social goals
- b. supports findings with specific examples
- c. uses open-ended questioning which requires thoughtful reflections
- d. allows enough time for processing
- e. generates energy in students
- f. sets positive feeling tone
- g. honors all student responses
- h. directs group goal setting and asks students to select goals in collaborative skills for next task session
- i. provides closure to processing session

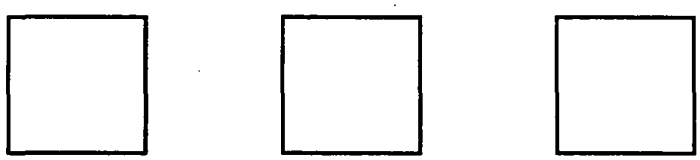
DATA RECORDING MAP

Teacher _____ Lesson _____ Date _____

Instructions:

- Draw a map of groups
- Leave space under each for codes and time spent with each group.
- Select from code sheet and tally as appropriate.





Uses observation sheet

_____ yes
_____ no

APPENDIX E.

WORKSHOP EVALUATION FORMS

EVALUATION - WORKSHOP #1
COOPERATIVE LEARNING: SUPERVISION TRAINING

1. What did you like best about the training session?

_____

_____

2. What did you like least about the training session?

_____

_____

3. Additional Comments/Remarks

_____

_____

_____

Please indicate your response to the following questions by circling the appropriate number.

4. Do you have a clear **understanding of cooperative learning terminology?**

Do not understand at all 1 2 3 4 5 6 7 Perfectly clear

5. Do you have a clear **understanding of how to collect data about:**

a. **the selection of an appropriate lesson?**

Do not understand at all 1 2 3 4 5 6 7 Perfectly clear

b. **making organizational decisions?**

Do not understand at all 1 2 3 4 5 6 7 Perfectly clear

c. **setting the lesson?**

Do not understand at all 1 2 3 4 5 6 7 Perfectly clear

d. **processing the group functioning?**

Do not understand at all 1 2 3 4 5 6 7 Perfectly clear

6. How confident do you feel about your **ability to analyze data about:**

a. **selection of an appropriate lesson?**

No confidence 1 2 3 4 5 6 7 High level of confidence

b. **making organizational decisions?**

No confidence 1 2 3 4 5 6 7 High level of confidence

c. **setting the lesson?**

No confidence 1 2 3 4 5 6 7 High level of confidence

d. **processing the group functioning?**

No confidence 1 2 3 4 5 6 7 High level of confidence

7. Is there anything about the project that disturbs you at this time?

____No ___Yes

If yes, please explain:

_____

_____

_____

10. How satisfied were you with today's workshop?

Utterly dissatisfied 1 2 3 4 5 6 7 Completely satisfied

EVALUATION - WORKSHOP #2
COOPERATIVE LEARNING: SUPERVISION TRAINING

1. What did you like best about this training session?

_____

_____

2. What did you like least about this training session?

_____

_____

3. Additional Comments/Remarks

_____

_____

_____

Please indicate your response to the following questions by circling the appropriate number.

4. Do you have a clear **understanding of the components of cooperative learning which we reviewed today?**

Do not understand at all 1 2 3 4 5 6 7 Perfectly clear

5. Do you have a clear **understanding of how to collect data about:**

a. **the monitoring of a lesson?**

Do not understand at all 1 2 3 4 5 6 7 Perfectly clear

b. **the processing of group functioning?**

Do not understand at all 1 2 3 4 5 6 7 Perfectly clear

6. How confident do you feel about your **ability to analyze data about:**

a. **the monitoring of a lesson?**

No confidence 1 2 3 4 5 6 7 High level of confidence

b. **the processing of group functioning?**

No confidence 1 2 3 4 5 6 7 High level of confidence

7. Is there anything about the project that disturbs you at this time?

____No ___Yes

If yes, please explain:

_____

_____

_____

10. How satisfied were you with today's workshop?

Utterly dissatisfied 1 2 3 4 5 6 7 Completely satisfied

APPENDIX F.

SURVEY INSTRUMENTS FOR STUDY

Code Number____

SUPERVISOR ATTITUDE SURVEY

This survey is designed to collect information sbout the supervision of teachers in cooperative learning. Please read each statement carefully and circle the number which reflects your level of confidence. Please use the following response scales:.

1	2	3	4	5	6	7
Strongly Disagree			Not Sure			Strongly Agree

As a supervisor:

1. I feel confident in making decisions about what to record when observing a cooperative learning lesson.	1 2 3 4 5 6 7
2. I feel confident in identifying important areas which would help the teacher to improve his/her classroom performance in cooperative learning.	1 2 3 4 5 6 7
3. I feel confident collecting pertinent data when observing a cooperative lesson.	1 2 3 4 5 6 7
4. I feel confident analyzing data correctly when observing a cooperative lesson.	1 2 3 4 5 6 7
5. I feel confident using the data I have recorded to provide specific examples for feedback to help the teacher improve the cooperative learning process.	1 2 3 4 5 6 7
6. I feel confident in making good decisions about the appropriateness of a cooperative learning lesson.	1 2 3 4 5 6 7
7. I feel confident that, given the supervision skills I now have, I can help teachers improve cooperative learning instruction.	1 2 3 4 5 6 7

Thank you for your thoughtful responses.

Code Number_____

SUPERVISOR CONFERENCE EFFECTIVENESS INVENTORY

The following statements are designed to gather information about the conference following observation of the cooperative learning lesson. Please read each statement carefully and circle the number which best represents your perceptions of the supervisory conference.

1	2	3	4	5	6	7
Strongly Disagree			Not Sure			Strongly Agree

The conference:

1.	Provided the teacher with specific suggestions or comments in regards to his/her lesson plan.	1	2	3	4	5	6	7
2.	Provided specific data for the teacher to analyze his/her effectiveness when presenting or monitoring the major parts of the lesson.	1	2	3	4	5	6	7
3.	Provided specific suggestions or feedback which would assist the teacher to improve his/her instructional skills in cooperative learning.	1	2	3	4	5	6	7
4.	Provided the teacher with specific feedback to reinforce effective use of the cooperative learning process.	1	2	3	4	5	6	7
5.	Helped the teacher reflect on his/her evaluation of the cooperative learning outcomes.	1	2	3	4	5	6	7
6	Motivated the teacher to improve the application of the cooperative learning process.	1	2	3	4	5	6	7
7.	Contributed to the professional growth of the teacher in knowledge and usage of cooperative learning.	1	2	3	4	5	6	7

Code Number_____

TEACHER EVALUATION INVENTORY AND PROFILE

The following statements are designed to collect information about the conference following observation of the cooperative learning lesson. Please read each statement carefully and circle the number which best represents your perceptions of the supervisory conference.

1	2	3	4	5	6	7
Strongly Disagree			Not Sure			Strongly Agree

The principal:

1.	Provided me with specific feedback or comments in regards to my lesson plan.	1	2	3	4	5	6	7
2.	Provided specific feedback for me to analyze my effectiveness with making organizational decisions.	1	2	3	4	5	6	7
3.	Provided specific feedback for me to analyze my effectiveness with setting the lesson.	1	2	3	4	5	6	7
4.	Provided specific feedback for me to analyze my effectiveness with monitoring and processing.	1	2	3	4	5	6	7
5.	Provided specific suggestions or feedback which would assist me to improve my instructional skills in cooperative learning.	1	2	3	4	5	6	7
6	Helped me identify and further develop my strengths in using the cooperative learning process.	1	2	3	4	5	6	7
7.	Helped me reflect on my evaluation of the cooperative learning outcomes.	1	2	3	4	5	6	7

page 2

1	2	3	4	5	6	7
Strongly Disagree			Not Sure			Strongly Agree

The principal:

8.	Motivated me to improve the application of the cooperative learning process.	1	2	3	4	5	6	7
9.	Contributed to my professional growth in knowledge and usage of cooperative learning.	1	2	3	4	5	6	7

Thank you for your thoughtful responses.

APPENDIX G.

PEER COACHING INFORMATION

COOPERATIVE LEARNING SUPERVISION TRAINING

TEAMING WITH PRINCIPAL PARTNER

I. Practice in groups of two today

- break cooperative lesson down into three parts
- reflect on key concepts and what is seen
- understand cooperative learning process
- determine what should be talked about in the cooperative observation

II. Work with partner

- learn together
- talk, review, feel free to ask questions
- compare observations and point out concepts/strategies together
- focus on concepts/lesson, not give each other evaluative feedback unless requested

APPENDIX H.

PERMISSION FOR USE OF HUMAN SUBJECTS

Last Name of Principal Investigator Niska

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Checklist for Attachments and Time Schedule

The following are attached (please check):

12. ☒ Letter or written statement to subjects indicating clearly:
    a) purpose of the research
    b) the use of any identifier codes (names, #'s), how they will be used, and when they will be removed (see Item 17)
    c) an estimate of time needed for participation in the research and the place
    d) if applicable, location of the research activity
    e) how you will ensure confidentiality
    f) in a longitudinal study, note when and how you will contact subjects later
    g) participation is voluntary; nonparticipation will not affect evaluations of the subject

13. ☐ Consent form (if applicable)

14. ☐ Letter of approval for research from cooperating organizations or institutions (if applicable)

15. ☒ Data-gathering instruments

(Has made initial contact with subjects to participate in study. - per John Niska, P.I. 12/11/90)

16. Anticipated dates for contact with subjects:

First Contact	Last Contact
November 1, 1990	April 30, 1991
Month / Day / Year	Month / Day / Year

17. If applicable: anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual tapes will be erased:

_____
Month / Day / Year

18. Signature of Departmental Executive Officer | Date | Department or Administrative Unit

[signature] | 12/10/90 | Professional Studies

19. Decision of the University Human Subjects Review Committee:

X Project Approved ___ Project Not Approved ___ No Action Required

Patricia M. Keith | 12-18-90 | [signature]
Name of Committee Chairperson | Date | Signature of Committee Chairperson